API Well Number: 43047523720000

FORM 3

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
NBU 1022-1M4CS

2. TYPE OF WORK
DRILL NEW WELL ● REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
NATURAL BUTTES

4. TYPE OF WELL
Gas Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME
NATURAL BUTTES

6. NAME OF OPERATOR
KERR-MCGEE OIL & GAS ONSHORE, L.P.

7. OPERATOR PHONE
720 929-6515

8. ADDRESS OF OPERATOR
P.O. Box 173779, Denver, CO, 80217

9. OPERATOR E-MAIL
julie.jacobson@anadarko.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU-010953

11. MINERAL OWNERSHIP
FEDERAL ● INDIAN ○ STATE ○ FEE ○

12. SURFACE OWNERSHIP
FEDERAL ● INDIAN ○ STATE ○ FEE ○

13. NAME OF SURFACE OWNER (if box 12 = 'fee')

14. SURFACE OWNER PHONE (if box 12 = 'fee')

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ● (Submit Commingling Application) NO ○

19. SLANT
VERTICAL ○ DIRECTIONAL ● HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1228 FSL 2092 FWL	SESW	1	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	98 FSL 810 FWL	SWSW	1	10.0 S	22.0 E	S
At Total Depth	98 FSL 810 FWL	SWSW	1	10.0 S	22.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
98

23. NUMBER OF ACRES IN DRILLING UNIT
160

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
664

26. PROPOSED DEPTH
MD: 8787 TVD: 8506

27. ELEVATION - GROUND LEVEL
5113

28. BOND NUMBER
WYB000291

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
43-8496

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	12.25	8.625	0 - 2160	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 8787	11.6	I-80 LT&C	12.5	Premium Lite High Strength	270	3.38	11.0
							50/50 Poz	1220	1.31	14.3

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

- ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☑ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ☑ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ☑ TOPOGRAPHICAL MAP

NAME Gina Becker **TITLE** Regulatory Analyst II **PHONE** 720 929-6086

SIGNATURE **DATE** 02/03/2012 **EMAIL** gina.becker@anadarko.com

API NUMBER ASSIGNED
43047523720000

APPROVAL

Permit Manager

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Kerr-McGee Oil & Gas Onshore. L.P.

NBU 1022-1M4CS

Surface: 1228 FSL / 2092 FWL SESW
BHL: 98 FSL / 810 FWL SWSW

Section 1 T10S R22E

Uintah County, Utah
Mineral Lease: UTU-010953

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1096	
Birds Nest	1348	Water
Mahogany	1713	Water
Wasatch	4126	Gas
Mesaverde	6351	Gas
MVU2	7292	Gas
MVL1	7869	Gas
TVD	8506	
TD	8787	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

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7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8506' TVD, approximately equals 5,444 psi 0.64 psi/ft = actual bottomhole gradient

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,561 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

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Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements
The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements
Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements
Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KM(well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

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on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Variance for FIT Requirements
KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Conclusion
The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.

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KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	October 6, 2011	
WELL NAME	**NBU 1022-1M4CS**		TD	8,506' TVD	8,787' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah	FINISHED ELEVATION	5112.7
SURFACE LOCATION	SESW 1228 FSL	2092 FWL	Sec 1	T 10S	R 22E
	Latitude: 39.974066	Longitude: -109.390210		NAD 83	
BTM HOLE LOCATION	SWSW 98 FSL	810 FWL	Sec 1	T 10S	R 22E
	Latitude: 39.970966	Longitude: -109.394786		NAD 83	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.				

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
		200'			
			11'	8-5/8", 28#, IJ-55, LTC	Air mist

All water flows encountered while drilling will be reported to the appropriate agencies.

Green River @	1,096'
Top of Birds Nest @	1,348'
Mahogany @	1,713'
Preset f/ GL @ 2,160' TVD	

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

Wasatch @	4,126'
Mverde @	6,351' TVD
MVU2 @	7,292' TVD
MVU1 @	7,869' TVD
TD @	8,506' TVD / 8,787' MD

Mud logging program TBD

Cased hole logging program from TD - surf csg

Max anticipated Mud required 12.5 ppg

7-7/8"	4-1/2" 11.6# I-80 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-12.5 ppg

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KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	LTC	DQX TENSION
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,160	28.00	IJ-55	LTC	2.50	1.86	6.57	N/A
								7,780	6,350	223,000	267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.15		3.24
	4-1/2"	5,000	to	8,787'	11.60	I-80	LTC	1.11	1.15	6.27	

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**				
Option 2	LEAD	1,660'	65/35 Poz + 6% Gel + 10 pps gilsonite	150	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,617'	Premium Lite II +0.25 pps	270	20%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,170'	50/50 Poz/G + 10% salt + 2% gel	1,220	35%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER: _____ **DATE:** _____

Nick Spence / Danny Showers / Chad Loesel

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

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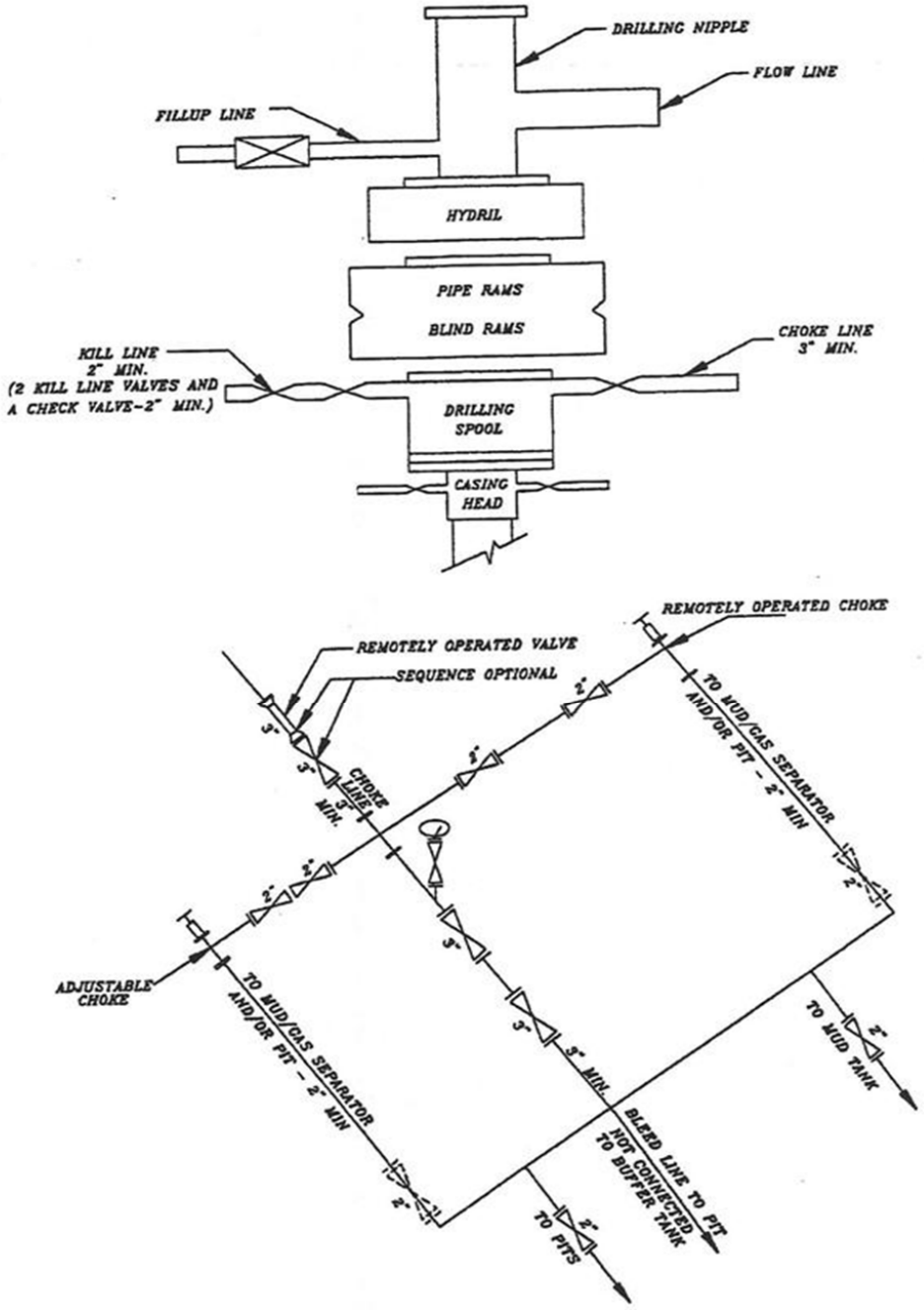
EXHIBIT A
NBU 1022-1M4CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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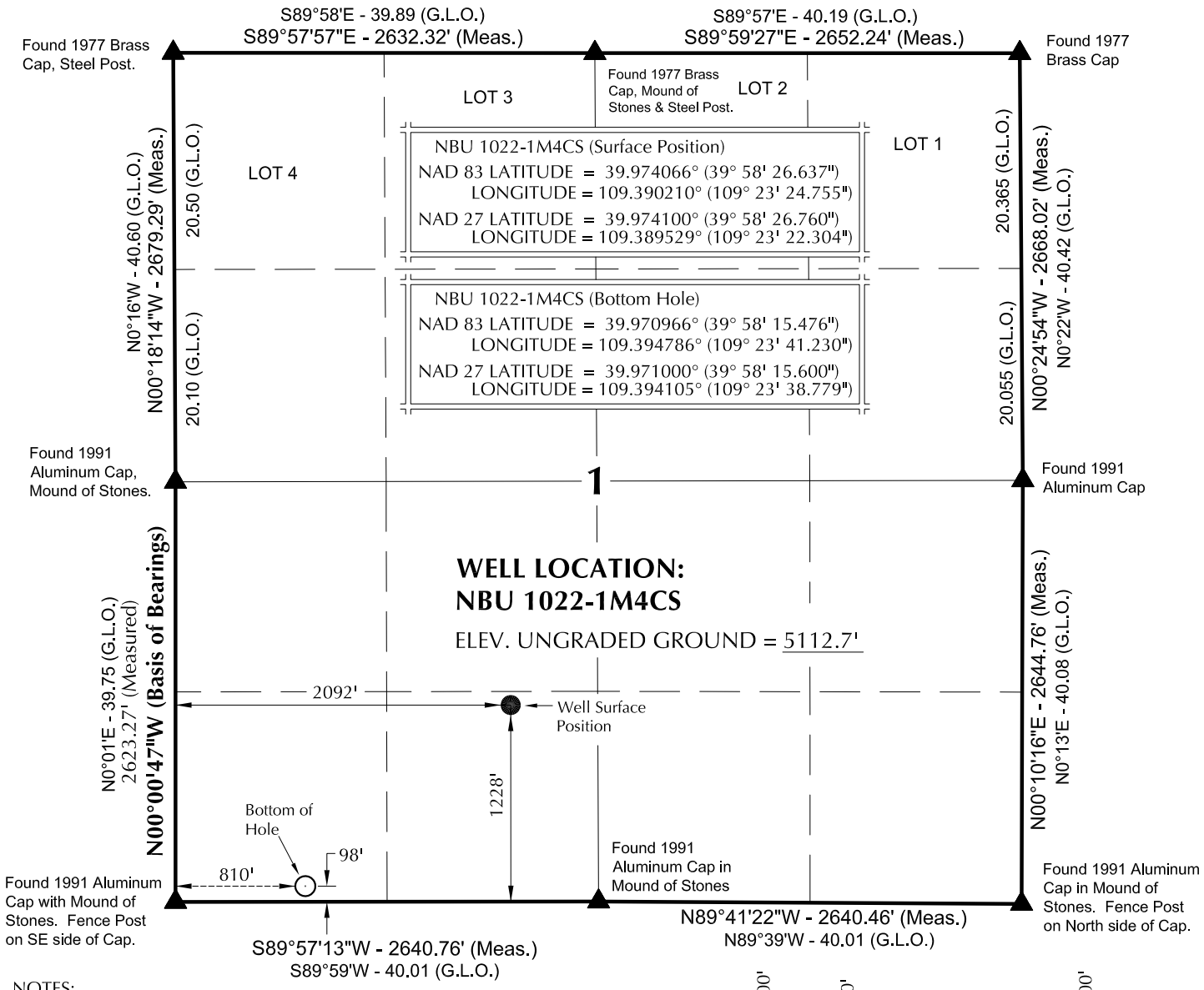
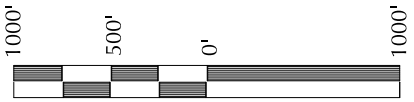
T10S, R22E, S.L.B.&M.



NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S48°35'26"W 1709.40' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



SCALE

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PROFESSIONAL LAND SURVEYOR
No.6028691
JOHN R
STATE OF UTAH

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH
2-24-11

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD: NBU 1022-1N

NBU 1022-1M4CS
WELL PLAT
98' FSL, 810' FWL (Bottom Hole)
SW ¼ SW ¼ OF SECTION 1, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

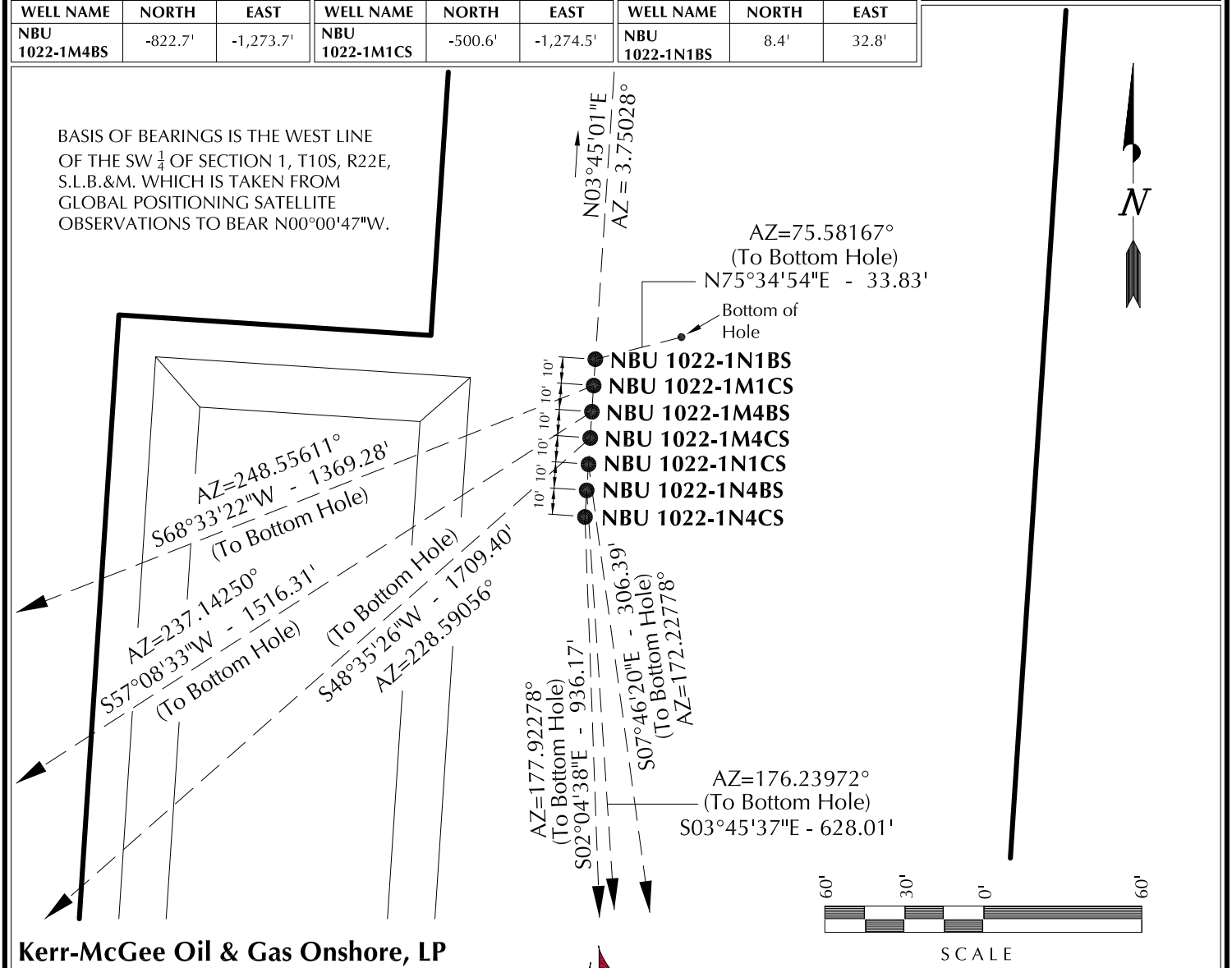
DATE SURVEYED: 02-17-11	SURVEYED BY: R.Y.	SHEET NO: 4
DATE DRAWN: 02-21-11	DRAWN BY: E.M.S.	4 OF 19
SCALE: 1" = 1000'	Date Last Revised:	

RECEIVED: February 02, 2012

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-1N4CS	39°58'26.340" 39.973983°	109°23'24.781" 109.390217°	39°58'26.464" 39.974018°	109°23'22.331" 109.389536°	1198' FSL 2090' FWL	39°58'17.097" 39.971416°	109°23'24.355" 109.390099°	39°58'17.220" 39.971450°	109°23'21.905" 109.389418°	262' FSL 2124' FWL
NBU 1022-1N4BS	39°58'26.440" 39.974011°	109°23'24.773" 109.390215°	39°58'26.564" 39.974045°	109°23'22.322" 109.389534°	1208' FSL 2091' FWL	39°58'20.249" 39.972291°	109°23'24.250" 109.390070°	39°58'20.372" 39.972326°	109°23'21.800" 109.389389°	581' FSL 2132' FWL
NBU 1022-1N1CS	39°58'26.538" 39.974038°	109°23'24.764" 109.390212°	39°58'26.662" 39.974073°	109°23'22.313" 109.389531°	1218' FSL 2092' FWL	39°58'23.539" 39.973205°	109°23'24.235" 109.390065°	39°58'23.662" 39.973239°	109°23'21.784" 109.389385°	914' FSL 2133' FWL
NBU 1022-1M4CS	39°58'26.637" 39.974066°	109°23'24.755" 109.390210°	39°58'26.760" 39.974100°	109°23'22.304" 109.389529°	1228' FSL 2092' FWL	39°58'15.476" 39.970966°	109°23'41.230" 109.394786°	39°58'15.600" 39.971000°	109°23'38.779" 109.394105°	98' FSL 810' FWL
NBU 1022-1M4BS	39°58'26.736" 39.974093°	109°23'24.747" 109.390208°	39°58'26.860" 39.974128°	109°23'22.297" 109.389527°	1238' FSL 2093' FWL	39°58'18.618" 39.971838°	109°23'41.112" 109.394753°	39°58'18.742" 39.971873°	109°23'38.661" 109.394072°	416' FSL 819' FWL
NBU 1022-1M1CS	39°58'26.834" 39.974121°	109°23'24.738" 109.390205°	39°58'26.958" 39.974155°	109°23'22.288" 109.389524°	1248' FSL 2094' FWL	39°58'21.898" 39.972750°	109°23'41.110" 109.394753°	39°58'22.022" 39.972784°	109°23'38.658" 109.394072°	748' FSL 819' FWL
NBU 1022-1N1BS	39°58'26.933" 39.974148°	109°23'24.730" 109.390203°	39°58'27.057" 39.974182°	109°23'22.280" 109.389522°	1258' FSL 2094' FWL	39°58'27.016" 39.974171°	109°23'24.309" 109.390086°	39°58'27.140" 39.974205°	109°23'21.859" 109.389405°	1266' FSL 2127' FWL

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST
NBU 1022-1N4CS	-935.6'	33.9
NBU 1022-1N4BS	-626.7'	41.2'
NBU 1022-1N1CS	-303.6'	41.4'
NBU 1022-1M4CS	-1,130.7'	-1,282.1'
NBU 1022-1M4BS	-822.7'	-1,273.7'
NBU 1022-1M1CS	-500.6'	-1,274.5'
NBU 1022-1N1BS	8.4'	32.8'



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-1N

WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-1N4CS, NBU 1022-1N4BS, NBU 1022-1N1CS, NBU 1022-1M4CS, NBU 1022-1M4BS, NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
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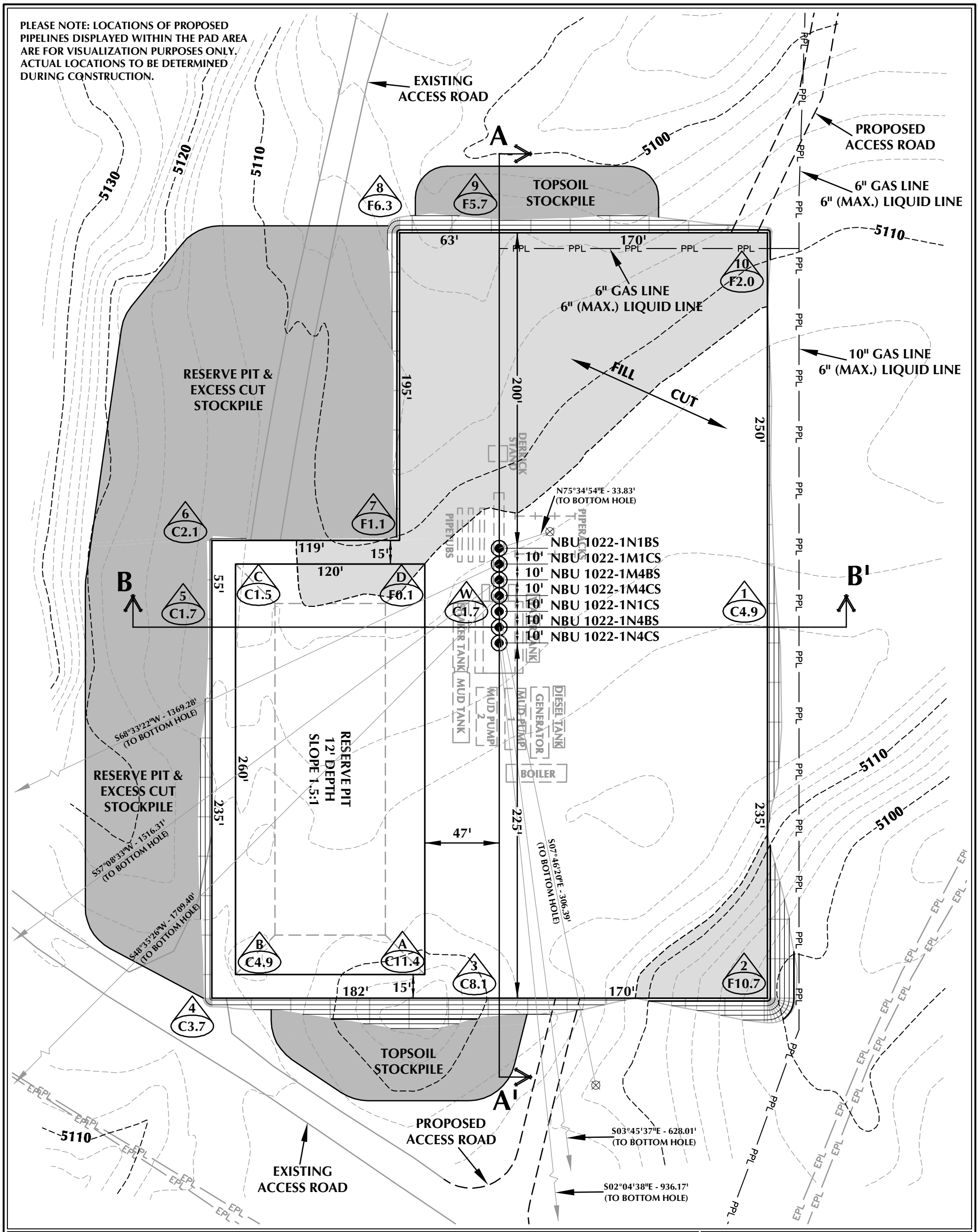
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 02-17-11	SURVEYED BY: R.Y.	SHEET NO: 8
DATE DRAWN: 02-22-11	DRAWN BY: E.M.S.	8 OF 19
SCALE: 1" = 60'	Date Last Revised:	

RECEIVED: February 02, 2012

API Well Number: 43047523720000



WELL PAD - NBU 1022-1N DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5112.9'
FINISHED GRADE ELEVATION = 5111.2'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.66 ACRES
TOTAL DISTURBANCE AREA = 5.16 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 14,411 C.Y.
TOTAL FILL FOR WELL PAD = 5,852 C.Y.
TOPSOIL @ 6" DEPTH = 2,951 C.Y.
EXCESS MATERIAL = 8,559 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 11,020 C.Y.
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 42,290 BARRELS

WELL PAD LEGEND

EXISTING WELL LOCATION
PROPOSED WELL LOCATION
PROPOSED BOTTOM HOLE LOCATION
EXISTING CONTOURS (2' INTERVAL)
PROPOSED CONTOURS (2' INTERVAL)
PPL — PROPOSED PIPELINE
EPL — EXISTING PIPELINE

HORIZONTAL 0 30' 60' 1" = 60'
2' CONTOURS

WELL PAD - NBU 1022-1N

WELL PAD - LOCATION LAYOUT
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60' | DATE: 6/17/11 | SHEET NO: 9 9 OF 19
REVISED:

K:\ANADARKO\2010\2010_39_NBU_FOCUS_SEC_1-1022\DWGS\NBU 1022-1N\1022-1N_New.dwg, 6/17/2011 2:37:34 PM, jacob

RECEIVED: February 02, 2012

API Well Number: 43047523720000

PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

EXISTING ACCESS ROAD

PROPOSED ACCESS ROAD

6" GAS LINE
6" (MAX.) LIQUID LINE

10" GAS LINE
6" (MAX.) LIQUID LINE

TOPSOIL STOCKPILE

RESERVE PIT & EXCESS CUT STOCKPILE

COMPLETIONS PIT
(CUTTINGS AREA)
12' DEPTH
SLOPE 1.5:1

NBU 1022-1N1BS
NBU 1022-1M1CS
NBU 1022-1M4BS
NBU 1022-1M4CS
NBU 1022-1N1CS
NBU 1022-1N4BS
NBU 1022-1N4CS

N75°34'54"E - 33.83'
(TO BOTTOM HOLE)

S68°33'22"W - 1369.28'
(TO BOTTOM HOLE)

S57°08'33"W - 1516.31'
(TO BOTTOM HOLE)

S48°35'26"W - 1709.40'
(TO BOTTOM HOLE)

S07°46'20"E - 306.39'
(TO BOTTOM HOLE)

S03°45'37"E - 628.01'
(TO BOTTOM HOLE)

S02°04'38"E - 936.17'
(TO BOTTOM HOLE)

WELL PAD - NBU 1022-1N (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5112.9'
FINISHED GRADE ELEVATION = 5111.2'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.66 ACRES
TOTAL DISTURBANCE AREA = 5.16 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-1N

WELL PAD - LOCATION LAYOUT
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 14,411 C.Y.
TOTAL FILL FOR WELL PAD = 5,852 C.Y.
TOPSOIL @ 6" DEPTH = 2,951 C.Y.
EXCESS MATERIAL = 8,559 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT
+/- 8,870 C.Y.
COMPLETIONS PIT CAPACITY
(2' OF FREEBOARD)
+/- 33,770 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

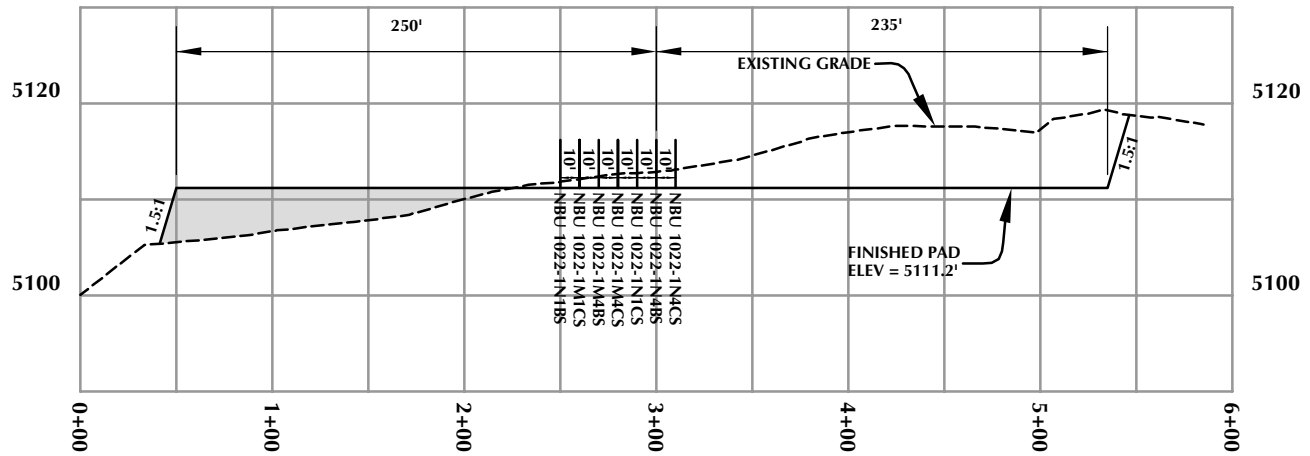
HORIZONTAL 0 30' 60' 1" = 60'
2' CONTOURS

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

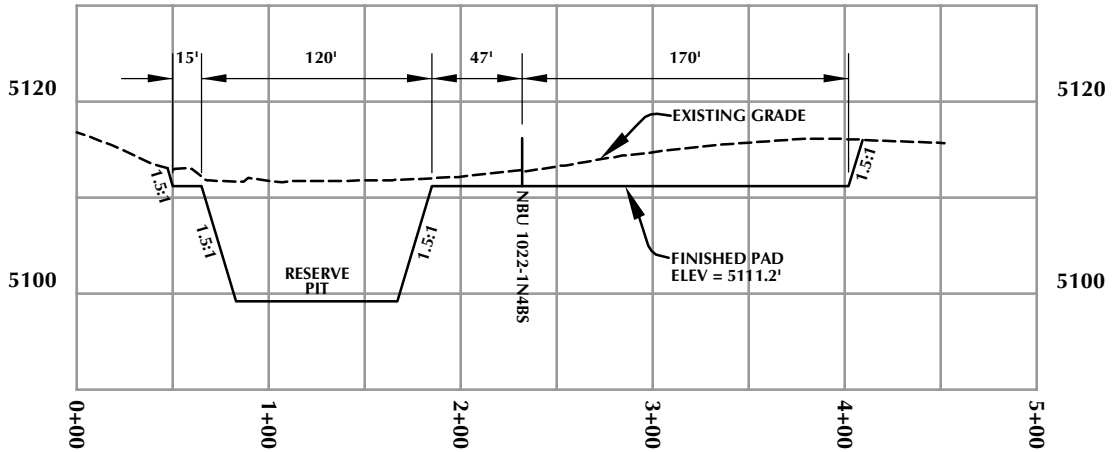
SCALE: 1"=60' | DATE: 10/5/11 | SHEET NO: 9B 9B OF 19
REVISED:

K:\ANADARKO\2010\2010_39_NBU_FOCUS_SEC_1-1022\DWGS\NBU 1022-1N\1022-1N_New.dwg, 10/5/2011 7:53:10 PM, gettv

RECEIVED: February 02, 2012



CROSS SECTION A-A'



CROSS SECTION B-B'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-1N

WELL PAD - CROSS SECTIONS
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

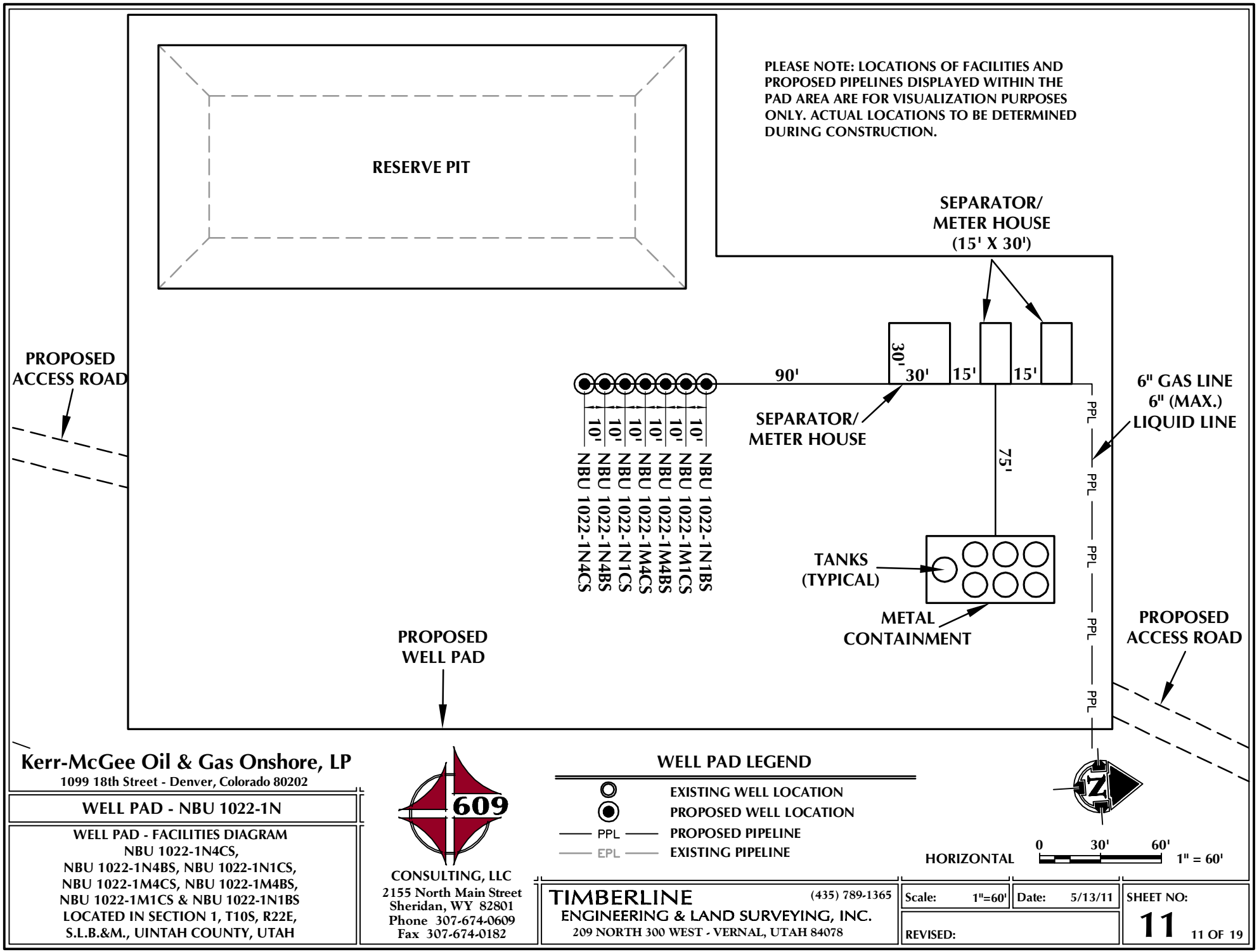
609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=100' | Date: 5/13/11 | SHEET NO: 10 10 OF 19
REVISED:

K:\ANADARKO\2010\2010_39_NBU_FOCUS_SEC_1-1022\DWGS\NBU 1022-1N\1022-1N_New.dwg, 5/26/2011 10:17:39 AM, tiffany



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-1N

WELL PAD - FACILITIES DIAGRAM
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
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Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=60' | Date: 5/13/11 | SHEET NO: 11 | 11 OF 19
REVISED:

K:\ANADARKO\2010\2010_39_NBU_FOCUS_SEC_1-1022\DWGS\NBU 1022-1N\1022-1N_New.dwg, 5/26/2011 10:18:16 AM, tiffany

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API Well Number: 43047523720000

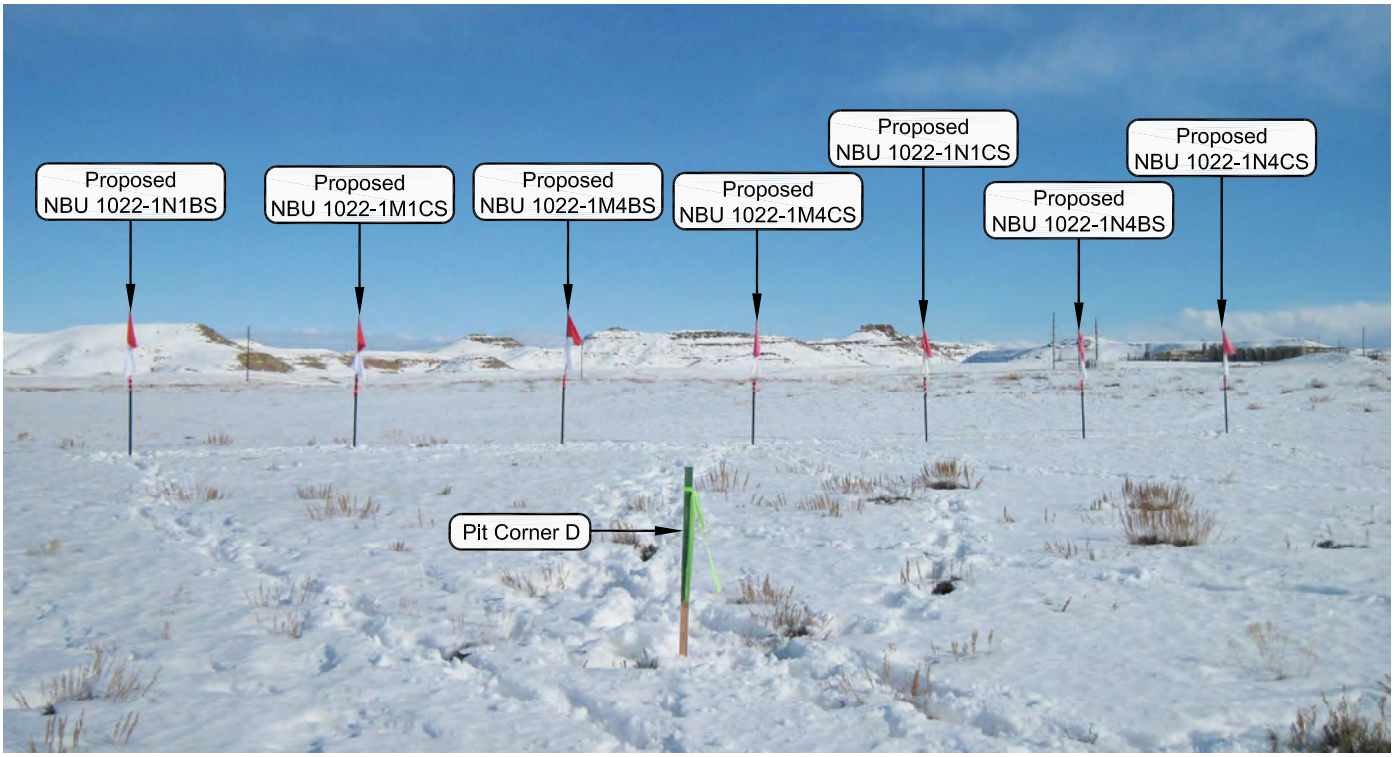


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE CAMERA ANGLE: SOUTHEASTERLY

PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD CAMERA ANGLE: NORTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-1N

LOCATION PHOTOS
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH.

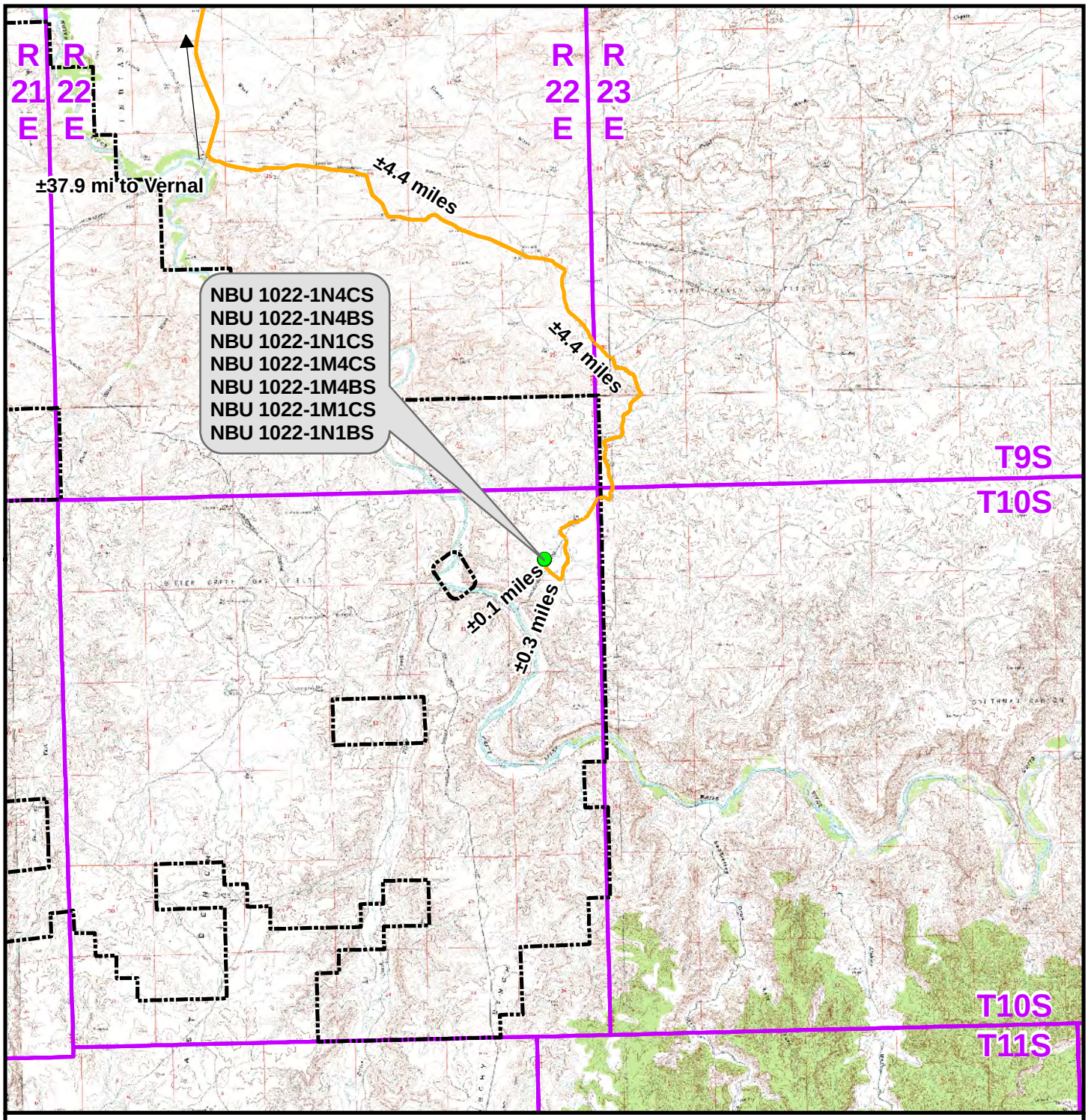
609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 02-17-11	PHOTOS TAKEN BY: R.Y.	SHEET NO: 12
DATE DRAWN: 02-22-11	DRAWN BY: E.M.S.	12 OF 19
Date Last Revised:		

RECEIVED: February 02, 2012

API Well Number: 43047523720000



Legend

Distance From Well Pad - NBU 1022-1N To Unit Boundary: ±3,190ft

Proposed Well Location

Natural Buttes Unit Boundary

Access Route - Proposed

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-1N

TOPO A
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

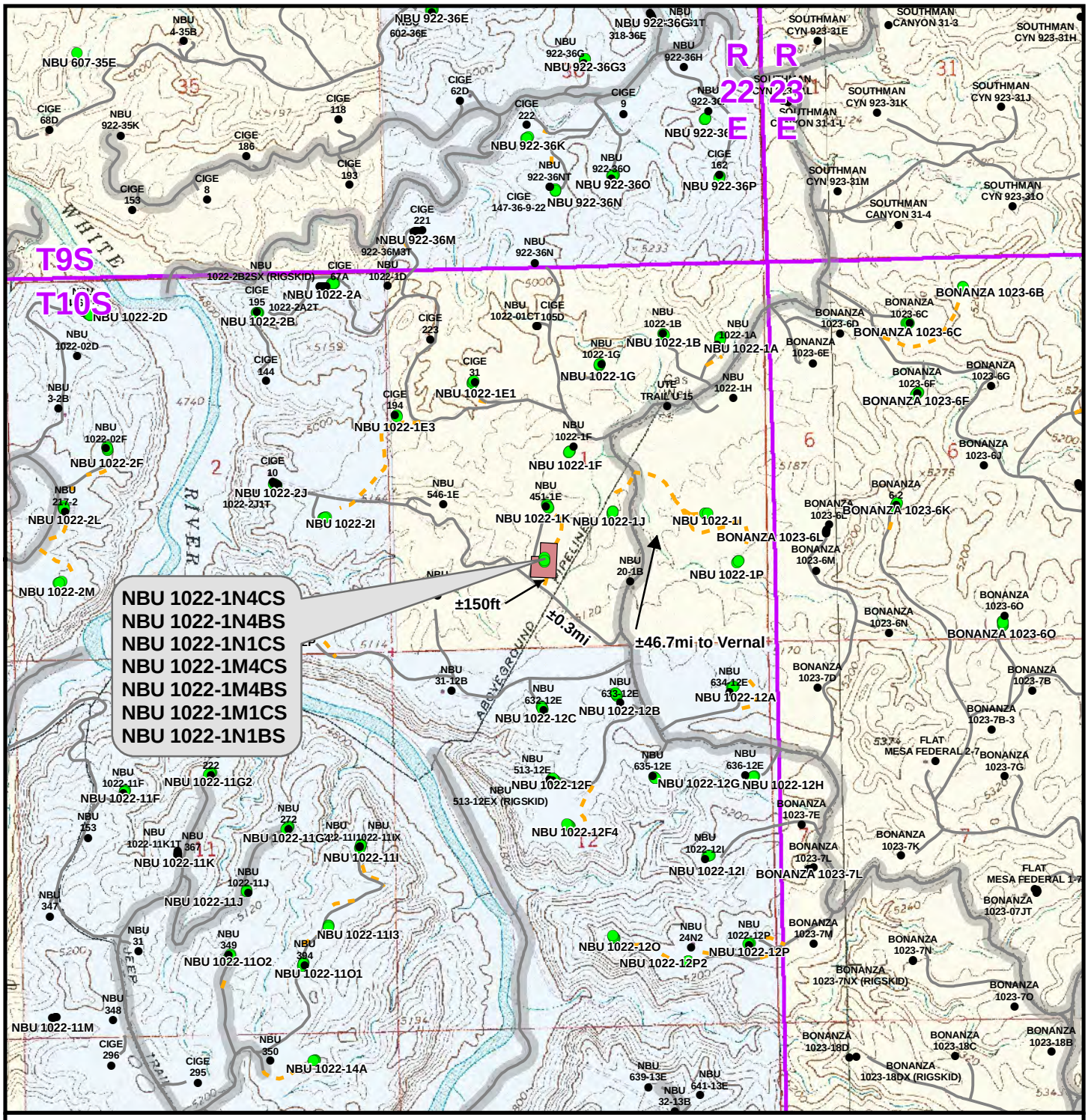
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1:100,000	NAD83 USP Central	Sheet No: 13 of 19	
Drawn: JFE	Date: 13 May 2011		
Revised:	Date:		

RECEIVED: February 02, 2012

API Well Number: 43047523720000



Legend

Well - Proposed | Well - Existing | Well Pad | Road - Proposed | Road - Existing | County Road

Total Proposed Road Length: ±150ft

Bureau of Land Management | Indian Reservation | State | Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-1N

TOPO B
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

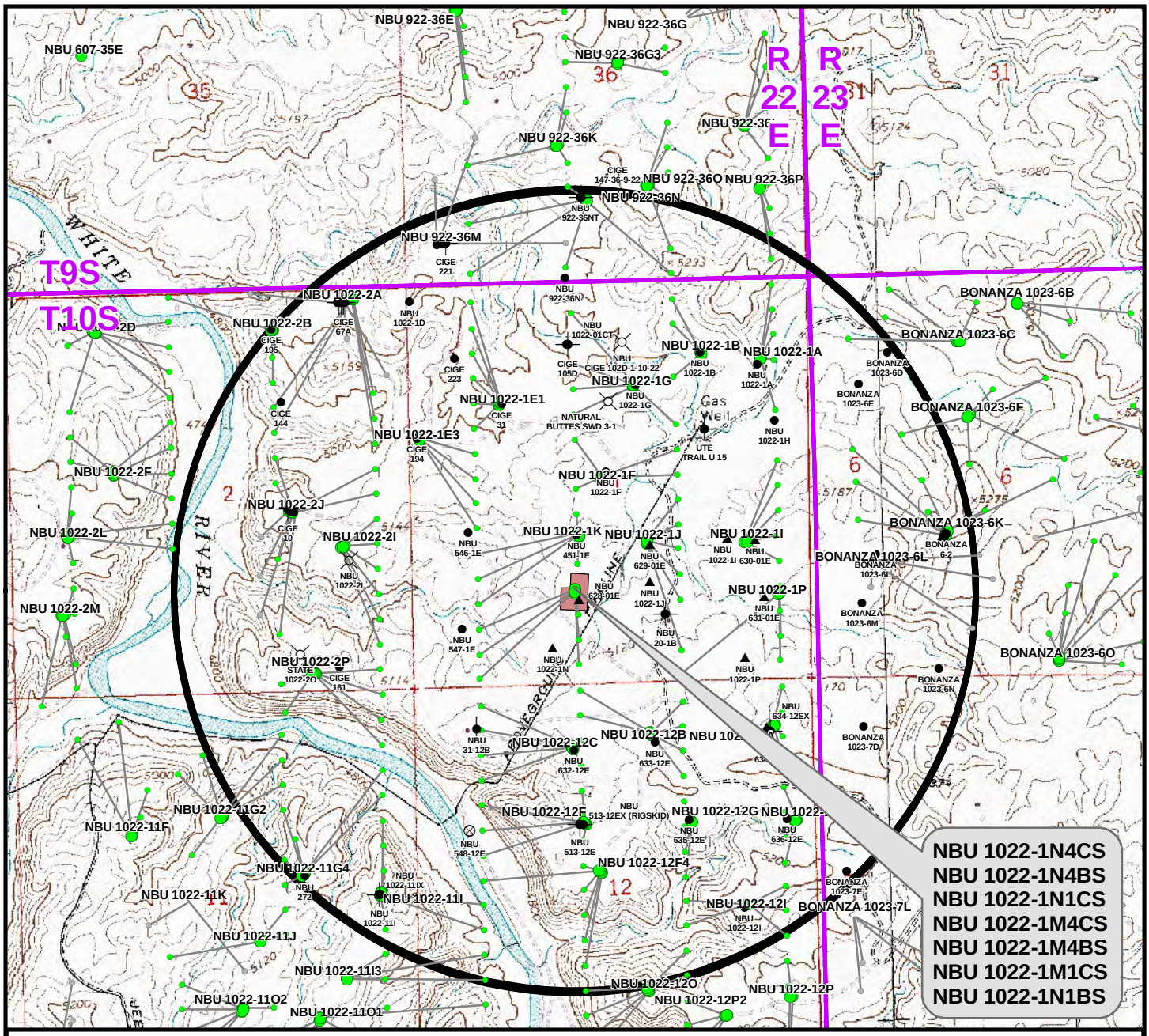
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:	14 of 19
Drawn: JFE	Date: 13 May 2011		
Revised:	Date:		

RECEIVED: February 02, 2012

API Well Number: 43047523720000



Proposed Well	Nearest Well Bore	Footage
NBU 1022-1N4CS	NBU 632-12E	1,130ft
NBU 1022-1N4BS	NBU 20-1B	1,190ft
NBU 1022-1N1CS	NBU 451-1E	1,051ft
NBU 1022-1M4CS	NBU 31-12B	664ft

Proposed Well	Nearest Well Bore	Footage
NBU 1022-1M4BS	NBU 547-1E	410ft
NBU 1022-1M1CS	NBU 547-1E	224ft
NBU 1022-1N1BS	NBU 451-1E	699ft

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

Legend

- Well - Proposed
- Well Path
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Pad
- Well - 1 Mile Radius

- Producing
- Active
- Spudded (Drilling commenced: Not yet completed)
- Approved permit (APD); not yet spudded
- New Permit (Not yet approved or drilled)
- Inactive
- Drilling Operations Suspended
- Temporarily-Abandoned
- Shut-In
- Plugged and Abandoned
- Location Abandoned
- Dry hole marker, buried
- Returned APD (Unapproved)

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-1N

TOPO C
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
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Sheridan, WY 82801
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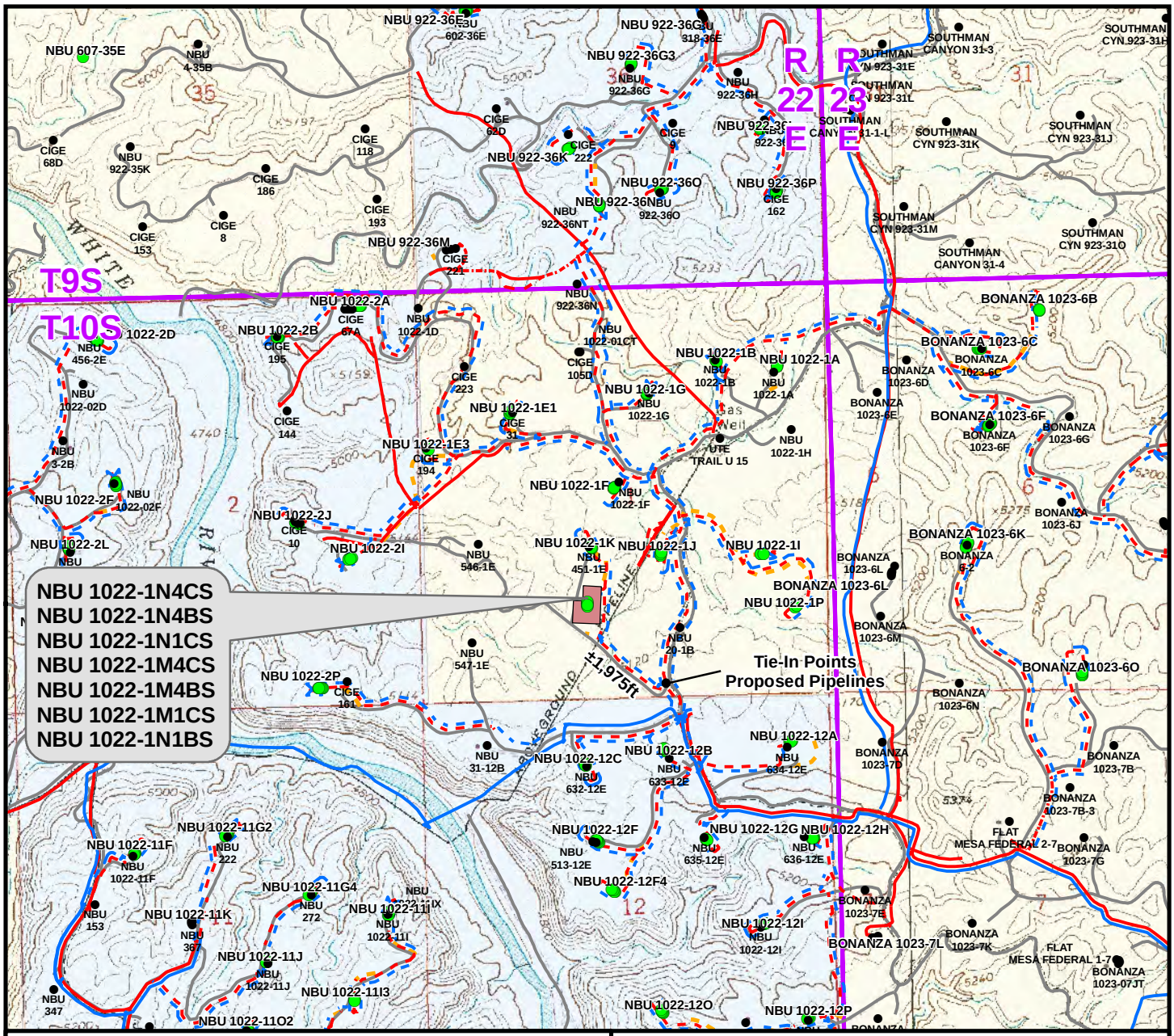
Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 15 of 19
Drawn: JFE	Date: 13 May 2011	
Revised:	Date:	

RECEIVED: February 02, 2012



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Meter House to Edge of Pad)	±215ft
Buried 6"(Max.) (Edge of Pad to 1K Intersection)	±20ft
Buried 6"(Max.) (1K Intersection to Proposed Pipeline ROW In Progress)	±1,955ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±2,190ft

Proposed Gas Pipeline	Length
Buried 6" (Meter House to Edge of Pad)	±215ft
Buried 6" (Edge of Pad to 1K Intersection)	±20ft
Buried 10" (1K Intersection to Proposed 16" Pipeline ROW IN Progress)	±1,955ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±2,190ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-1N

TOPO D
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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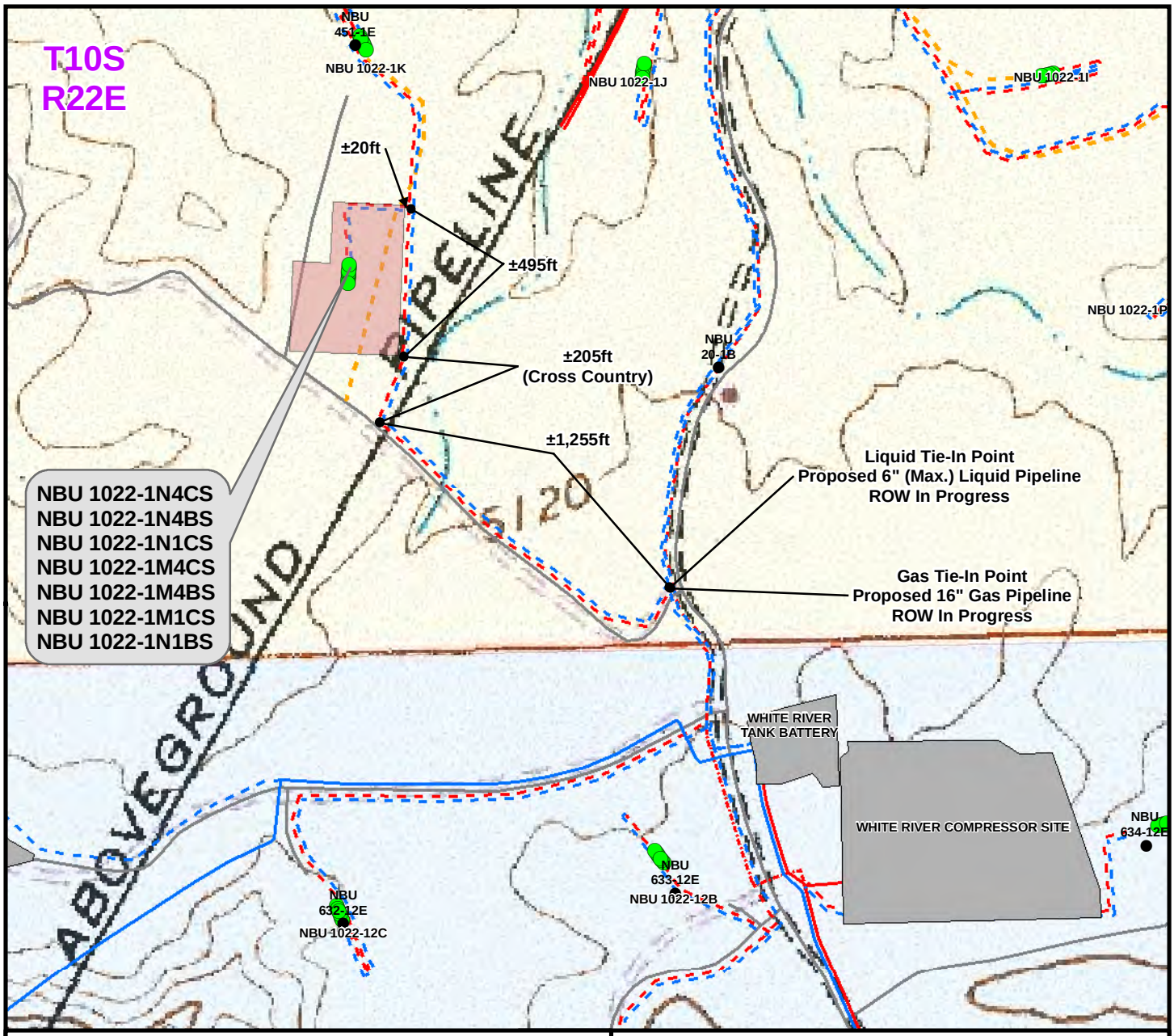
N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 16 of 19
Drawn: JFE	Date: 13 May 2011	
Revised:	Date:	

RECEIVED: February 02, 2012



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Meter House to Edge of Pad)	±215ft
Buried 6"(Max.) (Edge of Pad to 1K Intersection)	±20ft
Buried 6"(Max.) (1K Intersection to Proposed Pipeline ROW In Progress)	±1,955ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±2,190ft

Proposed Gas Pipeline	Length
Buried 6" (Meter House to Edge of Pad)	±215ft
Buried 6" (Edge of Pad to 1K Intersection)	±20ft
Buried 10" (1K Intersection to Proposed 16" Pipeline ROW IN Progress)	±1,955ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±2,190ft

Legend

Well - Proposed; Well Pad; Gas Pipeline - Proposed; Liquid Pipeline - Proposed; Road - Proposed; Bureau of Land Management
Well - Existing; Gas Pipeline - To Be Upgraded; Liquid Pipeline - Existing; Road - Existing; Indian Reservation
Gas Pipeline - Existing; State
Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-1N

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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Scale: 1" = 500ft	NAD83 USP Central	Sheet No: 17 of 19
Drawn: JFE	Date: 13 May 2011	
Revised:	Date:	

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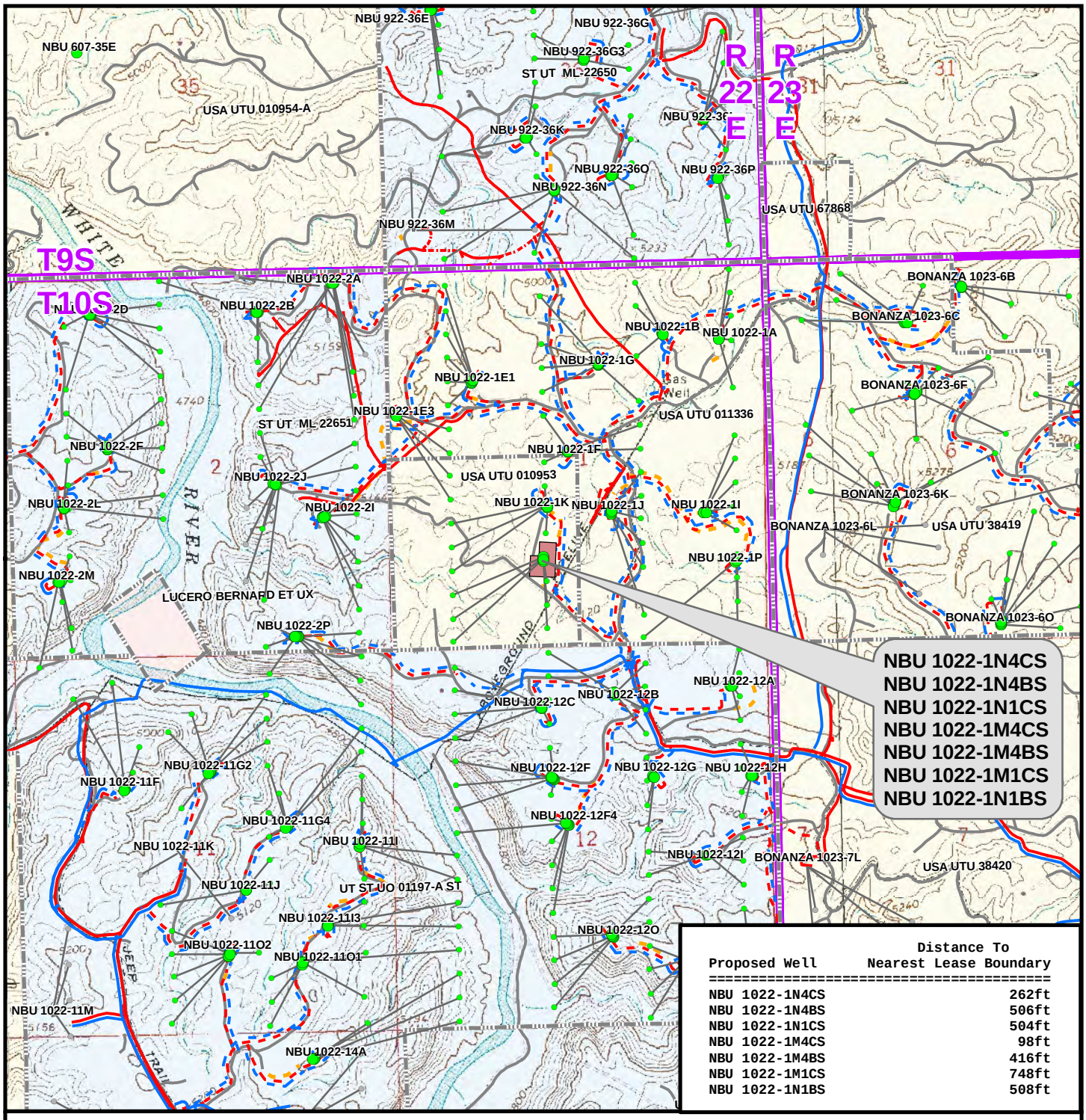

Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-1N4CS	262ft
NBU 1022-1N4BS	506ft
NBU 1022-1N1CS	504ft
NBU 1022-1M4CS	98ft
NBU 1022-1M4BS	416ft
NBU 1022-1M1CS	748ft
NBU 1022-1N1BS	508ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-1N

TOPO E
NBU 1022-1N4CS,
NBU 1022-1N4BS, NBU 1022-1N1CS,
NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
LOCATED IN SECTION 1, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:	
Drawn: JFE	Date: 13 May 2011	18	18 of 19
Revised:	Date:		

RECEIVED: February 02, 2012

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1022-1N
WELLS – NBU 1022-1N4CS, NBU 1022-1N4BS,
NBU 1022-1N1CS, NBU 1022-1M4CS, NBU 1022-1M4BS,
NBU 1022-1M1CS & NBU 1022-1N1BS
Section 1, T10S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 14.4 miles to the intersection of the Fidlar Road (County B Road 3410) which road intersection is approximately 400 feet northeast of the Mountain Fuel Bridge at the White River. Exit left and proceed in a southeasterly direction along the Fidlar Road approximately 4.4 miles to the intersection of the Seven Sisters Road (County B Road 3420). Exit right and proceed in a southeasterly, then southerly direction along the Seven Sisters Road approximately 4.4 miles to an existing access road to the southwest. Exit right and proceed along the existing access road in a southwesterly, then northwesterly direction approximately 0.3 miles to the proposed access road. Follow road flags in a northeasterly direction approximately 150 feet to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 47.0 miles in a southerly direction.

RECEIVED: February 02, 2012

API Well Number: 43047523720000

Scientific Drilling
Rocky Mountain Operations

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-1N PAD
Well: NBU 1022-1M4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 11.00°

Magnetic Field
Strength: 52310.4snT
Dip Angle: 65.86°
Date: 08/23/2011
Model: IGRF2010

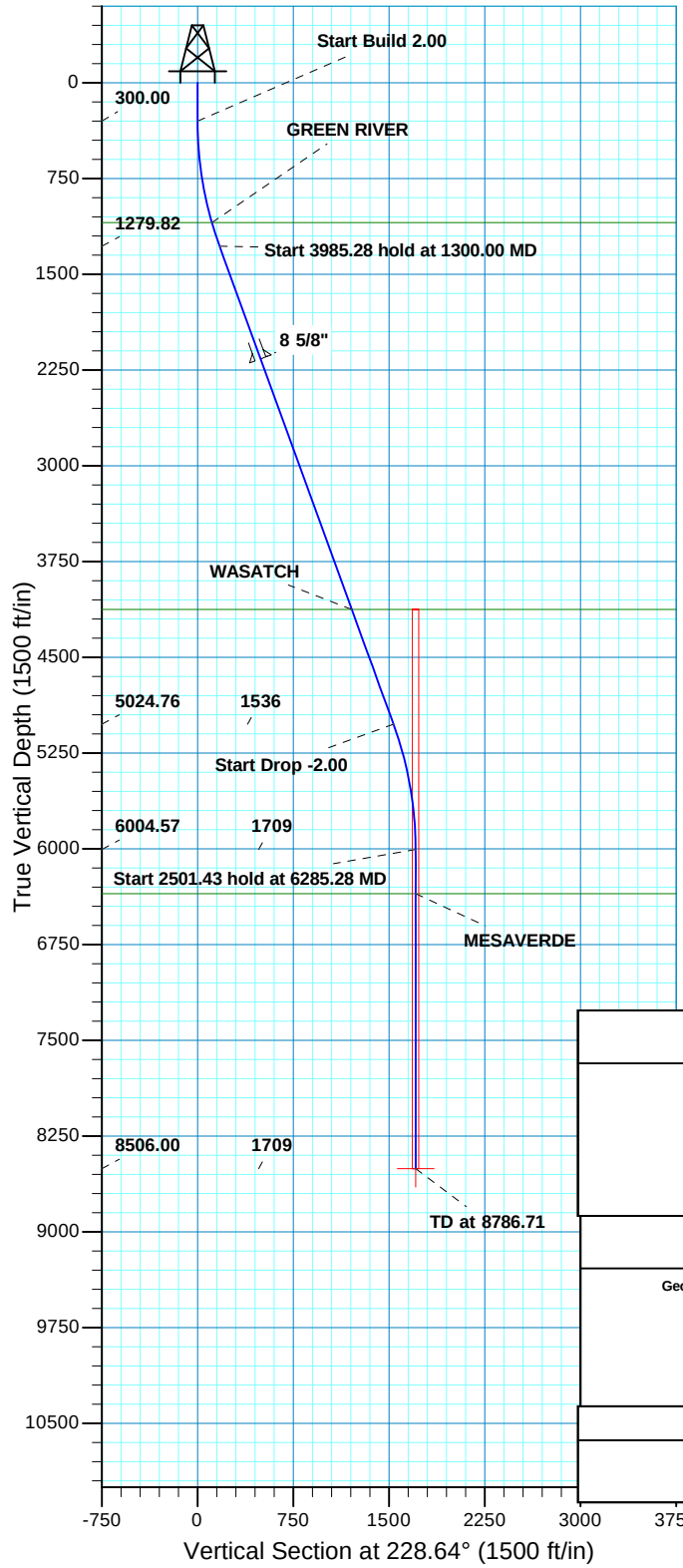
WELL DETAILS: NBU 1022-1M4CS

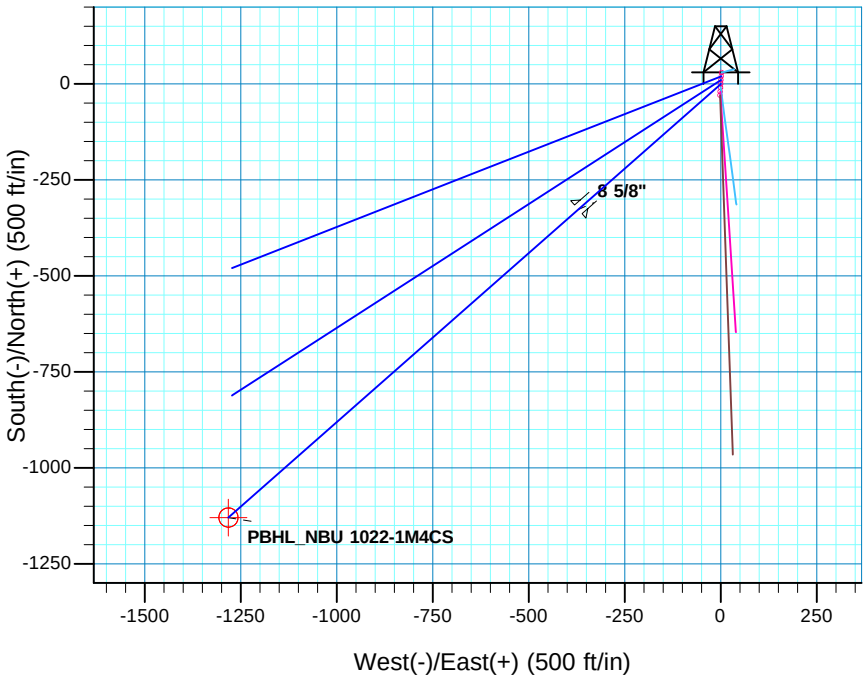
GL 5111 & KB 4
@ 5115.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14520687.80	2091623.30	39° 58' 26.760 N	109° 23' 22.304 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8506.00	-1129.04	-1282.39	14519535.79	2090361.51	39° 58' 15.600 N	109° 23' 38.778 W	Circle (Radius: 25.00)
- plan hits target center								





SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	228.64	1279.82	-114.17	-129.67	2.00	228.64	172.77	
5285.28	20.00	228.64	5024.76	-1014.87	-1152.72	0.00	0.00	1535.82	
6285.28	0.00	0.00	6004.57	-1129.04	-1282.39	2.00	180.00	1708.58	
8786.71	0.00	0.00	8506.00	-1129.04	-1282.39	0.00	0.00	1708.58	PBHL_NBU 1022-1M4CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 1 T10S R22W
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1096.00	1106.62	GREEN RIVER
4126.00	4328.85	WASATCH
6351.00	6631.71	MESAVERDE

CASING DETAILS

TVD	MD	Name	Size
2163.00	2239.87	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-1M4CS/OH)

Created By: RobertScott Date: 12:35, August 23 2011

RECEIVED:

API Well Number: 43047523720000

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-1N PAD
NBU 1022-1M4CS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

23 August, 2011

Anadarko Petroleum Corporation

RECEIVED: February 02, 2012

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Site:	NBU 1022-1N PAD	**North Reference:**	True
Well:	NBU 1022-1M4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site NBU 1022-1N PAD, SECTION 1 T10S R22W

Site Position:		**Northing:**	14,520,707.86 usft	**Latitude:**	39° 58' 26.958 N
From:	Lat/Long	**Easting:**	2,091,624.33 usft	**Longitude:**	109° 23' 22.286 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.03 °

Well NBU 1022-1M4CS, 1228 FSL 2092 FWL

Well Position	**+N/-S**	-20.03 ft	**Northing:**	14,520,687.81 usft	**Latitude:**	39° 58' 26.760 N
	+E/-W	-1.40 ft	**Easting:**	2,091,623.29 usft	**Longitude:**	109° 23' 22.304 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,111.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/23/11	11.00	65.86	52,310

Design PLAN #1 PRELIMINARY

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	228.64

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	228.64	1,279.82	-114.17	-129.67	2.00	2.00	0.00	228.64	
5,285.28	20.00	228.64	5,024.76	-1,014.87	-1,152.72	0.00	0.00	0.00	0.00	
6,285.28	0.00	0.00	6,004.57	-1,129.04	-1,282.39	2.00	-2.00	0.00	180.00	
8,786.71	0.00	0.00	8,506.00	-1,129.04	-1,282.39	0.00	0.00	0.00	0.00	PBHL_NBU 1022-1M

RECEIVED: February 02, 2012

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Site:	NBU 1022-1N PAD	**North Reference:**	True
Well:	NBU 1022-1M4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	228.64	399.98	-1.15	-1.31	1.75	2.00	2.00	0.00
500.00	4.00	228.64	499.84	-4.61	-5.24	6.98	2.00	2.00	0.00
600.00	6.00	228.64	599.45	-10.37	-11.78	15.69	2.00	2.00	0.00
700.00	8.00	228.64	698.70	-18.42	-20.93	27.88	2.00	2.00	0.00
800.00	10.00	228.64	797.47	-28.76	-32.67	43.52	2.00	2.00	0.00
900.00	12.00	228.64	895.62	-41.37	-46.99	62.60	2.00	2.00	0.00
1,000.00	14.00	228.64	993.06	-56.23	-63.87	85.10	2.00	2.00	0.00
1,100.00	16.00	228.64	1,089.64	-73.33	-83.29	110.98	2.00	2.00	0.00
1,106.62	16.13	228.64	1,096.00	-74.54	-84.67	112.81	2.00	2.00	0.00
GREEN RIVER									
1,200.00	18.00	228.64	1,185.27	-92.65	-105.24	140.21	2.00	2.00	0.00
1,300.00	20.00	228.64	1,279.82	-114.17	-129.67	172.77	2.00	2.00	0.00
Start 3985.28 hold at 1300.00 MD									
1,400.00	20.00	228.64	1,373.78	-136.77	-155.34	206.97	0.00	0.00	0.00
1,500.00	20.00	228.64	1,467.75	-159.37	-181.01	241.17	0.00	0.00	0.00
1,600.00	20.00	228.64	1,561.72	-181.97	-206.68	275.37	0.00	0.00	0.00
1,700.00	20.00	228.64	1,655.69	-204.57	-232.35	309.58	0.00	0.00	0.00
1,800.00	20.00	228.64	1,749.66	-227.17	-258.03	343.78	0.00	0.00	0.00
1,900.00	20.00	228.64	1,843.63	-249.77	-283.70	377.98	0.00	0.00	0.00
2,000.00	20.00	228.64	1,937.60	-272.37	-309.37	412.18	0.00	0.00	0.00
2,100.00	20.00	228.64	2,031.57	-294.97	-335.04	446.38	0.00	0.00	0.00
2,200.00	20.00	228.64	2,125.54	-317.57	-360.71	480.59	0.00	0.00	0.00
2,239.87	20.00	228.64	2,163.00	-326.58	-370.94	494.22	0.00	0.00	0.00
8 5/8"									
2,300.00	20.00	228.64	2,219.51	-340.17	-386.38	514.79	0.00	0.00	0.00
2,400.00	20.00	228.64	2,313.48	-362.78	-412.05	548.99	0.00	0.00	0.00
2,500.00	20.00	228.64	2,407.45	-385.38	-437.72	583.19	0.00	0.00	0.00
2,600.00	20.00	228.64	2,501.42	-407.98	-463.39	617.39	0.00	0.00	0.00
2,700.00	20.00	228.64	2,595.39	-430.58	-489.06	651.60	0.00	0.00	0.00
2,800.00	20.00	228.64	2,689.35	-453.18	-514.73	685.80	0.00	0.00	0.00
2,900.00	20.00	228.64	2,783.32	-475.78	-540.40	720.00	0.00	0.00	0.00
3,000.00	20.00	228.64	2,877.29	-498.38	-566.07	754.20	0.00	0.00	0.00
3,100.00	20.00	228.64	2,971.26	-520.98	-591.74	788.40	0.00	0.00	0.00
3,200.00	20.00	228.64	3,065.23	-543.58	-617.41	822.61	0.00	0.00	0.00
3,300.00	20.00	228.64	3,159.20	-566.18	-643.08	856.81	0.00	0.00	0.00
3,400.00	20.00	228.64	3,253.17	-588.78	-668.76	891.01	0.00	0.00	0.00
3,500.00	20.00	228.64	3,347.14	-611.38	-694.43	925.21	0.00	0.00	0.00
3,600.00	20.00	228.64	3,441.11	-633.99	-720.10	959.41	0.00	0.00	0.00
3,700.00	20.00	228.64	3,535.08	-656.59	-745.77	993.62	0.00	0.00	0.00
3,800.00	20.00	228.64	3,629.05	-679.19	-771.44	1,027.82	0.00	0.00	0.00
3,900.00	20.00	228.64	3,723.02	-701.79	-797.11	1,062.02	0.00	0.00	0.00
4,000.00	20.00	228.64	3,816.99	-724.39	-822.78	1,096.22	0.00	0.00	0.00
4,100.00	20.00	228.64	3,910.95	-746.99	-848.45	1,130.42	0.00	0.00	0.00
4,200.00	20.00	228.64	4,004.92	-769.59	-874.12	1,164.63	0.00	0.00	0.00
4,300.00	20.00	228.64	4,098.89	-792.19	-899.79	1,198.83	0.00	0.00	0.00
4,328.85	20.00	228.64	4,126.00	-798.71	-907.20	1,208.69	0.00	0.00	0.00

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Site:	NBU 1022-1N PAD	**North Reference:**	True
Well:	NBU 1022-1M4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
WASATCH									
4,400.00	20.00	228.64	4,192.86	-814.79	-925.46	1,233.03	0.00	0.00	0.00
4,500.00	20.00	228.64	4,286.83	-837.39	-951.13	1,267.23	0.00	0.00	0.00
4,600.00	20.00	228.64	4,380.80	-859.99	-976.80	1,301.43	0.00	0.00	0.00
4,700.00	20.00	228.64	4,474.77	-882.59	-1,002.47	1,335.64	0.00	0.00	0.00
4,800.00	20.00	228.64	4,568.74	-905.20	-1,028.14	1,369.84	0.00	0.00	0.00
4,900.00	20.00	228.64	4,662.71	-927.80	-1,053.81	1,404.04	0.00	0.00	0.00
5,000.00	20.00	228.64	4,756.68	-950.40	-1,079.48	1,438.24	0.00	0.00	0.00
5,100.00	20.00	228.64	4,850.65	-973.00	-1,105.16	1,472.44	0.00	0.00	0.00
5,200.00	20.00	228.64	4,944.62	-995.60	-1,130.83	1,506.65	0.00	0.00	0.00
5,285.28	20.00	228.64	5,024.76	-1,014.87	-1,152.72	1,535.82	0.00	0.00	0.00
Start Drop -2.00									
5,300.00	19.71	228.64	5,038.60	-1,018.18	-1,156.47	1,540.81	2.00	-2.00	0.00
5,400.00	17.71	228.64	5,133.31	-1,039.37	-1,180.54	1,572.88	2.00	-2.00	0.00
5,500.00	15.71	228.64	5,229.09	-1,058.36	-1,202.11	1,601.63	2.00	-2.00	0.00
5,600.00	13.71	228.64	5,325.81	-1,075.14	-1,221.17	1,627.01	2.00	-2.00	0.00
5,700.00	11.71	228.64	5,423.35	-1,089.67	-1,237.67	1,649.00	2.00	-2.00	0.00
5,800.00	9.71	228.64	5,521.61	-1,101.94	-1,251.61	1,667.58	2.00	-2.00	0.00
5,900.00	7.71	228.64	5,620.45	-1,111.94	-1,262.97	1,682.71	2.00	-2.00	0.00
6,000.00	5.71	228.64	5,719.76	-1,119.66	-1,271.74	1,694.39	2.00	-2.00	0.00
6,100.00	3.71	228.64	5,819.42	-1,125.08	-1,277.90	1,702.59	2.00	-2.00	0.00
6,200.00	1.71	228.64	5,919.30	-1,128.20	-1,281.44	1,707.31	2.00	-2.00	0.00
6,285.28	0.00	0.00	6,004.57	-1,129.04	-1,282.39	1,708.58	2.00	-2.00	0.00
Start 2501.43 hold at 6285.28 MD									
6,300.00	0.00	0.00	6,019.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
6,400.00	0.00	0.00	6,119.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
6,500.00	0.00	0.00	6,219.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
6,600.00	0.00	0.00	6,319.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
6,631.71	0.00	0.00	6,351.00	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
MESAVERDE									
6,700.00	0.00	0.00	6,419.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
6,800.00	0.00	0.00	6,519.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
6,900.00	0.00	0.00	6,619.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,000.00	0.00	0.00	6,719.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,100.00	0.00	0.00	6,819.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,200.00	0.00	0.00	6,919.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,300.00	0.00	0.00	7,019.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,400.00	0.00	0.00	7,119.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,500.00	0.00	0.00	7,219.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,600.00	0.00	0.00	7,319.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,700.00	0.00	0.00	7,419.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,800.00	0.00	0.00	7,519.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
7,900.00	0.00	0.00	7,619.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,000.00	0.00	0.00	7,719.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,100.00	0.00	0.00	7,819.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,200.00	0.00	0.00	7,919.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,300.00	0.00	0.00	8,019.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,400.00	0.00	0.00	8,119.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,500.00	0.00	0.00	8,219.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,600.00	0.00	0.00	8,319.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,700.00	0.00	0.00	8,419.29	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00
8,786.71	0.00	0.00	8,506.00	-1,129.04	-1,282.39	1,708.58	0.00	0.00	0.00

RECEIVED: February 02, 2012

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5111 & KB 4 @ 5115.00ft (ASSUMED)
Site:	NBU 1022-1N PAD	**North Reference:**	True
Well:	NBU 1022-1M4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
TD at 8786.71 - PBHL_NBU 1022-1M4CS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1022-1M4C - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,506.00	-1,129.04	-1,282.39	14,519,535.79	2,090,361.50	39° 58' 15.600 N	109° 23' 38.778 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,239.87	2,163.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,106.62	1,096.00	GREEN RIVER			
4,328.85	4,126.00	WASATCH			
6,631.71	6,351.00	MESAVERDE			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	-114.17	-129.67	Start 3985.28 hold at 1300.00 MD
5,285.28	5,024.76	-1,014.87	-1,152.72	Start Drop -2.00
6,285.28	6,004.57	-1,129.04	-1,282.39	Start 2501.43 hold at 6285.28 MD
8,786.71	8,506.00	-1,129.04	-1,282.39	TD at 8786.71

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Kerr-McGee Oil & Gas Onshore. L.P.

NBU 1022-1N Pad

API #	**NBU 1022-1M1CS**			
	Surface:	1248 FSL / 2094 FWL	SESW	Lot
	BHL:	748 FSL / 819 FWL	SWSW	Lot
API #	**NBU 1022-1M4BS**			
	Surface:	1238 FSL / 2093 FWL	SESW	Lot
	BHL:	416 FSL / 819 FWL	SWSW	Lot
API #	**NBU 1022-1M4CS**			
	Surface:	1228 FSL / 2092 FWL	SESW	Lot
	BHL:	98 FSL / 810 FWL	SWSW	Lot
API #4304739311	**NBU 1022-1N1BS (FKA NBU 628-01E)**			
	Surface:	1258 FSL / 2094 FWL	SESW	Lot
	BHL:	1266 FSL / 2127 FWL	SESW	Lot
API #	**NBU 1022-1N1CS**			
	Surface:	1218 FSL / 2092 FWL	SESW	Lot
	BHL:	914 FSL / 2133 FWL	SESW	Lot
API #	**NBU 1022-1N4BS**			
	Surface:	1208 FSL / 2091 FWL	SESW	Lot
	BHL:	581 FSL / 2132 FWL	SESW	Lot
API #	**NBU 1022-1N4CS**			
	Surface:	1198 FSL / 2090 FWL	SESW	Lot
	BHL:	262 FSL / 2124 FWL	SESW	Lot

An Application for Permit to Drill (APD) was approved by the BLM on January 12, 2009 for the NBU 628-01E well location. A Sundry Notice under separate cover will be submitted to change the location and the well name to the NBU 1022-1N1BS.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

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The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BLM. BMPs. Described in the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007) and/or BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, Kerr-McGee will adhere to the requirements of applicable Nationwide Permits of the Department of Army Corps of Engineers.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

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Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

The following segments are "on-lease"

±150' (0.03 miles) – Section 1 T10S R22E (SW/4) – On-lease UTU010953, new access road from the edge of the pad to the existing road. This road will be used concurrently with the NBU 1022-1K Pad. Please refer to Topo B.

C. Location of Existing Wells:

A) Refer to Topo Map C.

D. Location of Existing and/or Proposed Facilities:

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accomodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

GAS GATHERING

Please refer to Exhibit A and Topo D- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent).

Kerr-McGee proposes to install gas gathering lines to tie into a previously approved buried gas pipeline covered under ROW UTU-88692. The total of this proposed gas gathering from the meter to the approved 16" gas pipeline is ±2,190' and the individual segments are broken up as follows:

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The following segments are "onlease", no ROW needed.

±215' (0.04 miles) – Section 1 T10S R22E (NE/4 SW/4) – On-lease UTU010953, BLM surface, New 6" buried gas gathering pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±20' (0.01 miles) – Section 1 T10S R22E (NE/4 SW/4) – On-lease UTU010953, BLM surface, New 6" buried gas gathering pipeline from the edge of the pad to the proposed 10" buried gas pipeline at the NBU 1022-1K Pad intersection. Please refer to Exhibit A, Line 15.

±495' (0.1 miles) – Section 1 T10S R22E (SW/4) – On-lease UTU010953, BLM surface, New 10" buried gas gathering pipeline from the NBU 1022-1K Pad intersection to the SE corner of the NBU 1022-1N pad. This pipeline will be used concurrently with the NBU 1022-1K Pad. Please refer to Exhibit A, Line 13.

±205' (0.04 miles) – Section 1 T10S R22E (SE/4 SW/4) – On-lease UTU010953, BLM surface, New 10" buried gas gathering pipeline from the SE corner of the NBU 1022-1N Pad traveling cross country to the existing road to the south. Please refer to Exhibit A, Line 12. This pipeline will be used concurrently with the NBU 1022-1K Pad.

±1,225' (0.2 miles) – Section 1 T10S R22E (S/2) – On-lease UTU010953 and UTU011336, BLM surface, New 10" buried gas gathering pipeline from the existing road to the south of the NBU 1022-1N Pad to the tie-in at the previously approved 16" gas gathering pipeline. Please refer to Exhibit A, Line 11. This pipeline will be used concurrently with the NBU 1022-1K Pad.

Kerr-McGee proposes to install liquid gathering lines to tie into a previously approved buried liquid pipeline covered under ROW UTU-88691. The total of this proposed liquid gathering from the separator to the approved liquid pipeline is ±2,190' and the individual segments are broken up as follows:

The following segments are "onlease", no ROW needed.

±215' (0.04 miles) – Section 1 T10S R22E (NE/4 SW/4) – On-lease UTU010953, BLM surface, New 6" buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±20' (0.01 miles) – Section 1 T10S R22E (NE/4 SW/4) – On-lease UTU010953, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to the NBU 1022-1K Pad intersection. Please refer to Exhibit B, Line 15.

±495' (0.1 miles) – Section 1 T10S R22E (SW/4) – On-lease UTU010953, BLM surface, New 6" buried liquid gathering pipeline from the NBU 1022-1K Pad intersection to the SE corner of the NBU 1022-1N pad. This pipeline will be used concurrently with the NBU 1022-1K Pad. Please refer to Exhibit B, Line 13.

±205' (0.04 miles) – Section 1 T10S R22E (SE/4 SW/4) – On-lease UTU010953, BLM surface, New 6" buried liquid gathering pipeline from the SE corner of the NBU 1022-1N Pad traveling cross country to the existing road to the south. Please refer to Exhibit B, Line 12. This pipeline will be used concurrently with the NBU 1022-1K Pad.

±1,225' (0.2 miles) – Section 1 T10S R22E (S/2) – On-lease UTU010953 and UTU011336, BLM surface, New 6" buried liquid gathering pipeline from the existing road to the south of the NBU 1022-1N Pad to the tie-in at the previously approved liquid gathering pipeline. Please refer to Exhibit B, Line 11. This pipeline will be used concurrently with the NBU 1022-1K Pad.

Pipeline Gathering Construction

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Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' distrubance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent distrubance width is for maintenance and repairs. Cross country permanent distrubance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route’s intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM’s Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage

crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will

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be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface. Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

The Anadarko Completions Transportation System (ACTS) information:

Please refer to Exhibit C for ACTs Lines

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is disussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit .

ACTS will require temporarily laying multiple 6” aluminum water transfer lines on the surface between either existing or refurbished reserve pits. Please see the attached ACTS exhibit C for placement of the proposed temporary lines. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac

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operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from federal lands without prior approval from the BLM. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BLM.

G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BLM, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BLM, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

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Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BLM. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BLM.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

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Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

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NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 34 T9S R21E

H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of distrubance will not exceed the maximum disturbance outlined in the attached exhibits.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BLM.

J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification

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will be provided to the BLM for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left “rough” after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

Final Reclamation

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BLM will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BLM. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications of the BLM.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BLM.

Measures Common to Interim and Final Reclamation

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Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BLM, or a specific seed mix will be proposed by Kerr-McGee to the BLM and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Shadescale Mix	**Pure Live Seed lbs/acre**
Indian Ricegrass (Nezpar)	3
Sandberg bluegrass	0.75
Bottlebrush squirreltail	1
Great Basin Wildrye	0.5
Crested wheatgrass (Ephraim)	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing	0.75
Forage Kochia	0.25
Total	9.5

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

Weed Control

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed

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Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Permit (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

Monitoring

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 200 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines)

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

K. Surface/Mineral Ownership:

United States of America
Bureau of Land Management
170 South 500 East
Vernal, UT 84078
(435)781-4400

L. Other Information:

Cultural and Paleontological Resources

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BLM.

Resource Reports:

A Class I literature survey was completed in May 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-145.

A paleontological reconnaissance survey was completed in June, 2010 and July, 2011 by SWCA Environmental Consultants. For additional details please refer to reports UT11-14314-30, UT11-14314-32 and UT11-14314-33.

Biological field survey was completed in May and June of 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to reports GCI-517 and GCI 559.

Proposed Action Annual Emissions Tables:

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Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
SO_2	0.005	0.0043	0.0093
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.025	0.425
Benzene	2.2E-03	0.044	0.046
Toluene	1.6E-03	0.103	0.105
Ethylbenzene	3.4E-04	0.005	0.005
Xylene	1.1E-03	0.076	0.077
n-Hexane	1.7E-04	0.145	0.145
Formaldehyde	1.3E-02	8.64E-05	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Production Emissions	2012 Uintah Basin	Proposed Action
NOx	27.44	16,547	0.17%
VOC	35	127,495	0.03%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

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M. Lessee's or Operators' Representative & Certification:

Gina T. Becker
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6086

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Gina T.Becker

October 11, 2011
Date

Joseph D. Johnson
1099 18TH STREET STE. 1800 • DENVER, CO 80202
720-929-6708 • FAX 720-929-7708
E-MAIL: JOE.JOHNSON@ANADARKO.COM

September 28, 2011

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1022-1M4CS
T10S-R22E
Section 1: SESW/SWSW
Surface: 1228' FSL, 2092' FWL
Bottom Hole: 98' FSL, 810' FWL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1022-1M4CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joseph D. Johnson
Landman

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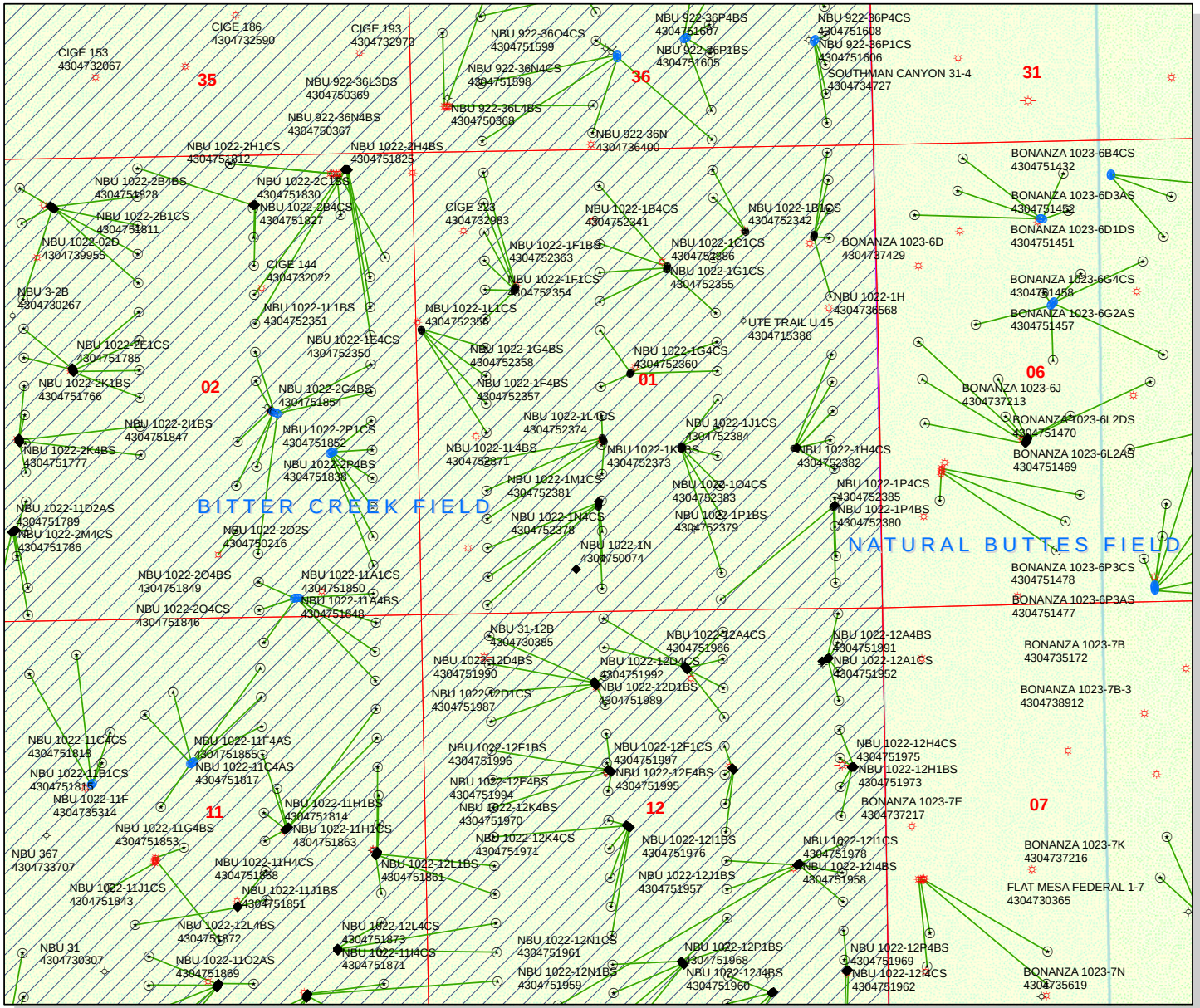
API Well Number: 43047523720000



API Number: 4304752372

Well Name: NBU 1022-1M4CS

Township T1.0 . Range R2.2 . Section 01

Meridian: SLBM

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

Units
STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields
STATUS
- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED

Wells Query
Status
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

1,500 750 0 1,500 Feet

1:14,184

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
3160
(UT-922)

February 10, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
WELL PAD - NBU 1022-25D		
43-047-52295	NBU 1022-25C2DS	Sec 25 T10S R22E 0653 FNL 0339 FWL BHL Sec 25 T10S R22E 0488 FNL 1933 FWL
43-047-52296	NBU 1022-25C3DS	Sec 25 T10S R22E 0730 FNL 0314 FWL BHL Sec 25 T10S R22E 1147 FNL 1931 FWL
43-047-52297	NBU 1022-25C3AS	Sec 25 T10S R22E 0732 FNL 0324 FWL BHL Sec 25 T10S R22E 0820 FNL 1938 FWL
43-047-52298	NBU 1022-25D2DS	Sec 25 T10S R22E 0650 FNL 0319 FWL (BH) BHL Sec 25 T10S R22E 0485 FNL 0630 FWL
43-047-52299	NBU 1022-25F2AS	Sec 25 T10S R22E 0652 FNL 0329 FWL BHL Sec 25 T10S R22E 1482 FNL 1955 FWL
43-047-52300	NBU 1022-25D3DS	Sec 25 T10S R22E 0727 FNL 0295 FWL BHL Sec 25 T10S R22E 1152 FNL 0630 FWL
43-047-52301	NBU 1022-25D3AS	Sec 25 T10S R22E 0729 FNL 0305 FWL BHL Sec 25 T10S R22E 0822 FNL 0631 FWL
43-047-52302	NBU 1022-25E2AS	Sec 25 T10S R22E 0648 FNL 0309 FWL BHL Sec 25 T10S R22E 1479 FNL 0631 FWL
WELL PAD - NBU 1022-1A		
43-047-52335	NBU 1022-1A1BS	Sec 01 T10S R22E 1030 FNL 0663 FEL BHL Sec 01 T10S R22E 0099 FNL 0498 FEL

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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-52336	NBU 1022-1A1CS	Sec 01 T10S R22E 1040 FNL 0665 FEL
		BHL Sec 01 T10S R22E 0416 FNL 0493 FEL
43-047-52337	NBU 1022-1A4BS	Sec 01 T10S R22E 1050 FNL 0667 FEL
		BHL Sec 01 T10S R22E 0748 FNL 0493 FEL
43-047-52338	NBU 1022-1H1CS	Sec 01 T10S R22E 1069 FNL 0670 FEL
		BHL Sec 01 T10S R22E 1745 FNL 0493 FEL
43-047-52340	NBU 1022-1A4CS	Sec 01 T10S R22E 1059 FNL 0668 FEL
		BHL Sec 01 T10S R22E 1083 FNL 0497 FEL
WELL PAD - NBU 1022-1B		
43-047-52339	NBU 1022-1B1BS	Sec 01 T10S R22E 0976 FNL 1453 FEL
		BHL Sec 01 T10S R22E 0262 FNL 1811 FEL
43-047-52341	NBU 1022-1B4CS	Sec 01 T10S R22E 0984 FNL 1447 FEL
		BHL Sec 01 T10S R22E 1282 FNL 1825 FEL
43-047-52342	NBU 1022-1B1CS	Sec 01 T10S R22E 0968 FNL 1459 FEL
		BHL Sec 01 T10S R22E 0580 FNL 1812 FEL
WELL PAD - NBU 1022-1E1		
43-047-52343	NBU 1022-1D1BS	Sec 01 T10S R22E 1559 FNL 1172 FWL
		BHL Sec 01 T10S R22E 0238 FNL 0820 FWL
43-047-52344	NBU 1022-1D1CS	Sec 01 T10S R22E 1568 FNL 1168 FWL
		BHL Sec 01 T10S R22E 0585 FNL 0820 FWL
43-047-52345	NBU 1022-1D4BS	Sec 01 T10S R22E 1577 FNL 1164 FWL
		BHL Sec 01 T10S R22E 0912 FNL 0822 FWL
43-047-52346	NBU 1022-1D4CS	Sec 01 T10S R22E 1586 FNL 1160 FWL
		BHL Sec 01 T10S R22E 1244 FNL 0822 FWL
43-047-52347	NBU 1022-1E1BS	Sec 01 T10S R22E 1596 FNL 1156 FWL
		BHL Sec 01 T10S R22E 1576 FNL 0821 FWL
43-047-52348	NBU 1022-1E1CS	Sec 01 T10S R22E 1605 FNL 1152 FWL
		BHL Sec 01 T10S R22E 1909 FNL 0821 FWL
WELL PAD - NBU 1022-1E3		
43-047-52349	NBU 1022-1E4BS	Sec 01 T10S R22E 2011 FNL 0086 FWL
		BHL Sec 01 T10S R22E 2241 FNL 0821 FWL
43-047-52350	NBU 1022-1E4CS	Sec 01 T10S R22E 2020 FNL 0088 FWL
		BHL Sec 01 T10S R22E 2573 FNL 0821 FWL
43-047-52351	NBU 1022-1L1BS	Sec 01 T10S R22E 2030 FNL 0091 FWL
		BHL Sec 01 T10S R22E 2409 FSL 0820 FWL
43-047-52356	NBU 1022-1L1CS	Sec 01 T10S R22E 2040 FNL 0094 FWL
		BHL Sec 01 T10S R22E 2077 FSL 0820 FWL
WELL PAD - NBU 1022-1F		
43-047-52352	NBU 1022-1K1BS	Sec 01 T10S R22E 2588 FNL 2468 FWL
		BHL Sec 01 T10S R22E 2574 FSL 2136 FWL

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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE		
43-047-52357	NBU 1022-1F4BS	Sec 01 T10S R22E 2573 FNL 2480 FWL
		BHL Sec 01 T10S R22E 2076 FNL 2138 FWL
43-047-52358	NBU 1022-1G4BS	Sec 01 T10S R22E 2565 FNL 2486 FWL
		BHL Sec 01 T10S R22E 2242 FNL 1808 FEL
43-047-52360	NBU 1022-1G4CS	Sec 01 T10S R22E 2580 FNL 2474 FWL
		BHL Sec 01 T10S R22E 2574 FNL 1808 FEL
WELL PAD - NBU 1022-1G		
43-047-52353	NBU 1022-1C4CS	Sec 01 T10S R22E 1366 FNL 2354 FEL
		BHL Sec 01 T10S R22E 1080 FNL 2140 FWL
43-047-52354	NBU 1022-1F1CS	Sec 01 T10S R22E 1395 FNL 2362 FEL
		BHL Sec 01 T10S R22E 1744 FNL 2138 FWL
43-047-52355	NBU 1022-1G1CS	Sec 01 T10S R22E 1385 FNL 2359 FEL
		BHL Sec 01 T10S R22E 1909 FNL 1809 FEL
43-047-52363	NBU 1022-1F1BS	Sec 01 T10S R22E 1375 FNL 2357 FEL
		BHL Sec 01 T10S R22E 1412 FNL 2139 FWL
43-047-52386	NBU 1022-1C1CS	Sec 01 T10S R22E 1356 FNL 2351 FEL
		BHL Sec 01 T10S R22E 0415 FNL 2141 FWL
WELL PAD - NBU 1022-1J		
43-047-52359	NBU 1022-1J1BS	Sec 01 T10S R22E 1887 FSL 2226 FEL
		BHL Sec 01 T10S R22E 2410 FSL 1807 FEL
43-047-52362	NBU 1022-1O1BS	Sec 01 T10S R22E 1847 FSL 2232 FEL
		BHL Sec 01 T10S R22E 1081 FSL 1805 FEL
43-047-52366	NBU 1022-1J4CS	Sec 01 T10S R22E 1857 FSL 2231 FEL
		BHL Sec 01 T10S R22E 1413 FSL 1805 FEL
43-047-52367	NBU 1022-1O4BS	Sec 01 T10S R22E 1838 FSL 2234 FEL
		BHL Sec 01 T10S R22E 0417 FSL 1804 FEL
43-047-52384	NBU 1022-1J1CS	Sec 01 T10S R22E 1877 FSL 2227 FEL
		BHL Sec 01 T10S R22E 2078 FSL 1807 FEL
WELL PAD - NBU 1022-1K		
43-047-52361	NBU 1022-1M1BS	Sec 01 T10S R22E 1966 FSL 2158 FWL
		BHL Sec 01 T10S R22E 1081 FSL 0819 FWL
43-047-52365	NBU 1022-1K1CS	Sec 01 T10S R22E 1994 FSL 2146 FWL
		BHL Sec 01 T10S R22E 2242 FSL 2136 FWL
43-047-52370	NBU 1022-1K4CS	Sec 01 T10S R22E 1948 FSL 2166 FWL
		BHL Sec 01 T10S R22E 1578 FSL 2134 FWL
43-047-52371	NBU 1022-1L4BS	Sec 01 T10S R22E 1985 FSL 2150 FWL
		BHL Sec 01 T10S R22E 1745 FSL 0820 FWL

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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE		
43-047-52373	NBU 1022-1K4BS	Sec 01 T10S R22E 1957 FSL 2162 FWL
		BHL Sec 01 T10S R22E 1910 FSL 2135 FWL
43-047-52374	NBU 1022-1L4CS	Sec 01 T10S R22E 1975 FSL 2154 FWL
		BHL Sec 01 T10S R22E 1413 FSL 0819 FWL
WELL PAD - NBU 1022-1I		
43-047-52364	NBU 1022-1I4CS	Sec 01 T10S R22E 1828 FSL 0928 FEL
		BHL Sec 01 T10S R22E 1579 FSL 0492 FEL
43-047-52368	NBU 1022-1I1BS	Sec 01 T10S R22E 1826 FSL 0937 FEL
		BHL Sec 01 T10S R22E 2576 FSL 0492 FEL
43-047-52369	NBU 1022-1I1CS	Sec 01 T10S R22E 1830 FSL 0918 FEL
		BHL Sec 01 T10S R22E 2243 FSL 0492 FEL
43-047-52382	NBU 1022-1H4CS	Sec 01 T10S R22E 1824 FSL 0947 FEL
		BHL Sec 01 T10S R22E 2410 FNL 0492 FEL
WELL PAD - NBU 1022-1N		
43-047-52372	NBU 1022-1M4CS	Sec 01 T10S R22E 1228 FSL 2092 FWL
		BHL Sec 01 T10S R22E 0098 FSL 0810 FWL
43-047-52375	NBU 1022-1M4BS	Sec 01 T10S R22E 1238 FSL 2093 FWL
		BHL Sec 01 T10S R22E 0416 FSL 0819 FWL
43-047-52376	NBU 1022-1N1CS	Sec 01 T10S R22E 1218 FSL 2092 FWL
		BHL Sec 01 T10S R22E 0914 FSL 2133 FWL
43-047-52377	NBU 1022-1N4BS	Sec 01 T10S R22E 1208 FSL 2091 FWL
		BHL Sec 01 T10S R22E 0581 FSL 2132 FWL
43-047-52378	NBU 1022-1N4CS	Sec 01 T10S R22E 1198 FSL 2090 FWL
		BHL Sec 01 T10S R22E 0262 FSL 2124 FWL
43-047-52381	NBU 1022-1M1CS	Sec 01 T10S R22E 1248 FSL 2094 FWL
		BHL Sec 01 T10S R22E 0748 FSL 0819 FWL
WELL PAD - NBU 1022-1P		
43-047-52379	NBU 1022-1P1BS	Sec 01 T10S R22E 1168 FSL 0485 FEL
		BHL Sec 01 T10S R22E 1246 FSL 0491 FEL
43-047-52380	NBU 1022-1P4BS	Sec 01 T10S R22E 1154 FSL 0500 FEL
		BHL Sec 01 T10S R22E 0582 FSL 0491 FEL
43-047-52383	NBU 1022-1O4CS	Sec 01 T10S R22E 1141 FSL 0515 FEL
		BHL Sec 01 T10S R22E 0106 FSL 1816 FEL
43-047-52385	NBU 1022-1P4CS	Sec 01 T10S R22E 1148 FSL 0508 FEL
		BHL Sec 01 T10S R22E 0270 FSL 0503 FEL

RECEIVED: February 10, 2012

The NBU 1022-25D2DS, 43-047-52298, is being permitted to target productive horizons below the unitized zone of the Natural Buttes Unit as defined in Section 3 of said agreement. We recommend not approving commingling of production with these zones and the unitized zones of the Natural Buttes Unit until this matter has been resolved by the BLM's Utah State Office.

This office has no other objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2012.02.10 08:36:59 -07'00'

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:2-10-12

RECEIVED: February 10, 2012

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 2/3/2012 **API NO. ASSIGNED:** 43047523720000
WELL NAME: NBU 1022-1M4CS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6086
CONTACT: Gina Becker

PROPOSED LOCATION: SESW 01 100S 220E **Permit Tech Review:** ☑
SURFACE: 1228 FSL 2092 FWL **Engineering Review:** ☑
BOTTOM: 0098 FSL 0810 FWL **Geology Review:** ☑
COUNTY: UINTAH
LATITUDE: 39.97407 **LONGITUDE:** -109.39037
UTM SURF EASTINGS: 637453.00 **NORTHINGS:** 4426120.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU-010953 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE
SURFACE OWNER: 1 - Federal **COALBED METHANE:** NO

RECEIVED AND/OR REVIEWED:

- ☑ **PLAT**
- ☑ **Bond:** FEDERAL - WYB000291
- ☐ **Potash**
- ☑ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** 43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☑ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

Board Cause No: Cause 173-14
Effective Date: 12/2/1999
Siting: Suspends General Siting

- ☑ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
3 - Commingling - ddoucet
4 - Federal Approval - dmason
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason

RECEIVED: February 15, 2012

GARY R. HERBERT
Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: NBU 1022-1M4CS
API Well Number: 43047523720000
Lease Number: UTU-010953
Surface Owner: FEDERAL
Approval Date: 2/15/2012

Issued to:
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:
In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well contact Carol Daniels at 801-538-5284
  (please leave a voicemail message if not available)
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
  at http://oilgas.ogm.utah.gov

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

RECEIVED

OCT 20 2011

BLM VERNAL, UTAH

Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU010953

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
UTU63047A

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.
NBU 1022-1M4CS

2. Name of Operator
KERR-MCGEE OIL & GAS ONSHORE LP
Contact: GINA T BECKER
E-Mail: GINA.BECKER@ANADARKO.COM

9. API Well No.
43-047-52372

3a. Address
P.O. BOX 173779
DENVER, CO 80202-3779

3b. Phone No. (include area code)
Ph: 720-929-6086
Fx: 720-929-7086

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SESW 1228FSL 2092FWL 39.974066 N Lat, 109.390210 W Lon

At proposed prod. zone SWSW 98FSL 810FWL 39.970966 N Lat, 109.394786 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 1 T10S R22E Mer SLB

14. Distance in miles and direction from nearest town or post office*
APPROXIMATELY 46 MILES SOUTH OF VERNAL, UTAH

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
98

16. No. of Acres in Lease
640.00

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
664

19. Proposed Depth
8787 MD
8506 TVD

20. BLM/BIA Bond No. on file
WYB000291

21. Elevations (Show whether DF, KB, RT, GL, etc.
5113 GL

22. Approximate date work will start
03/01/2012

23. Estimated duration
60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
GINA T BECKER Ph: 720-929-6086

Date
10/12/2011

Title
REGULATORY ANALYST II

Approved by (Signature)

Name (Printed/Typed)
Jerry Kenczka

Date
JUN 19 201

Title
Assistant Field Manager
Lands & Mineral Resources

Office
VERNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #120073 verified by the BLM Well Information System
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal

RECEIVED
JUL 03 2012
DIV. OF OIL, GAS & MINING

UDOGM

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

T1 R22E S1 NENE

APD Posted 10/21/11

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4400

CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	**Kerr McGee Oil & Gas Onshore**	**Location:**	**SESW, Sec. 1, T10S, R22E**
Well No:	**NBU 1022-1M4CS**	**Lease No:**	**UTU-010953**
API No:	**43-047-52372**	**Agreement:**	**Natural Buttes**

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: blm_ut_vn_opreport@blm.gov
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour.

- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.

- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

Site Specific COA's

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horse power must not emit more than 2 grams of NOx per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.

- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 grams of NOx per horsepower-hour.

- The following would be used as standard operating procedures: Green completion or controlled VOC emissions methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Glycol Dehydration and Amine Unites, Well Completion, Re-Completion, Venting, and Planned Blowdown Emissions.

- All reclamation will comply with the Green River Reclamation Guidelines.

- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.

- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established.

- Noxious and invasive weeds will be controlled throughout the area of project disturbance.

- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.

- A pesticide use proposal (PUP) will be obtained for the project.

- A permitted paleontologist is to be present to monitor construction at well pads CIGE 31 (AKA NBU 1022-1E1) and NBU 1022-1I during all surface disturbing actives: examples include the following building of the well pad, access road, and pipelines.

- The best method to avoid entrainment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.

- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:
    a. do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes;
    b. limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 31); and
    c. limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.

- Screen all pump intakes with 3/32 inch mesh material.

- Approach velocities for intake structures will follow the National Marine Fisheries Service's document "Fish Screening Criteria for Anadromous Salmonids". For projects with an in-stream intake that operate in stream reaches where larval fish may be present, the approach velocity will not exceed 0.33 feet per second (ft/s).

- Report any fish impinged on the intake screen to the Service (801.975.3330) and the Utah Division of Wildlife Resources:
    Northeastern Region
    152 East 100 North, Vernal, UT 84078
    Phone: (435) 781-9453

- Kerr McGee can only use the following water source:
  Permit # 49-2307 JD Field Services Green River-Section 15, T2N, R22E

The following measures are required by and have been committed to by Anadarko for all areas where surface disturbing activities cannot be avoided by the required 300 foot buffer from identified Uinta Basin hookless cactus individuals.

- Silt fencing will be used to protect populations within 300 feet of surface disturbing activities that are downslope or downwind of the surface disturbance

- A qualified botanist will be on site to monitor the surface-disturbing activities.

- Dust abatement will occur and will be done using only water.

- All cacti within 300 feet will be flagged immediately prior to surface-disturbing activities are completed.

- Pipelines will be located to the far side of the ROW to maximize distance from cacti.

- Project personnel associated with construction activities would be instructed to drive a speed limit of 15 miles per hour on unpaved roads and to remain on the existing roads and approved ROW at all times.

To maintain compliance with current cactus survey protocols, the following measures will be required.

- If construction does not occur within 4 years of the original survey date, new 100% clearance surveys will be required.

- Prior to construction within 4 years of the original survey date, a spot check survey will be required during the year of construction. KMG and their respective 3rd party surveyor will refer to the current *Sclerocactus* Spot Check Survey Methods, to determine site specific survey distances and intensity levels.

- Spot check reports will be reported to the BLM and the US Fish and Wildlife Service.

- Construction will not commence until written approval is received from the BLM.

Discovery Stipulation: Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for Pariette cactus or Uinta Basin hookless cactus is anticipated as a result of project activities.

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/08 and approved 7/28/08) shall be on location.
- Surface casing cement shall be brought to surface.
- Production casing cement shall be brought 200' up and into the surface casing.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each

encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.

- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

- **Please submit an electronic copy of all other logs run on this well in LAS format to BLM_UT_VN_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.

- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:

    - Operator name, address, and telephone number.

    - Well name and number.

    - Well location (¼¼, Sec., Twn, Rng, and P.M.).

    - Date well was placed in a producing status (date of first production for which royalty will be paid).

    - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).

    - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.

    - Unit agreement and/or participating area name and number, if applicable.

    - Communitization agreement number, if applicable.

- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.

- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.

- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.

- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.

- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

SUBMIT AS EMAIL | Print Form

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By J. Scharnowske Phone Number 720.929.6304
Well Name/Number NBU 1022-1M4CS
Qtr/Qtr SESW Section 1 Township 10S Range 22E
Lease Serial Number UTU010953
API Number 4304752372

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 08/23/2012 11:00 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☑ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

Date/Time 09/19/2012 08:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

RECEIVED
AUG 2 1 2012
DIV. OF OIL, GAS & MINING

Date/Time _____ _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT 435.828.0986 OR LOVEL YOUNG AT 435.781.7051

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010953

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-1M4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047523720000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1228 FSL 2092 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SESW Section: 01 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
✓ SPUD REPORT Date of Spud: 8/24/2012	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU TRIPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CEMENT WITH 28 SACKS READY MIX. SPUD WELL LOCATION ON AUGUST 24, 2012 AT 13:00 HRS.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
August 30, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 8/29/2012

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Operator Account Number: N 2995
Address: P.O. Box 173779
city DENVER
state CO zip 80217
Phone Number: (720) 929-6304

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304739311	NBU 1022-1N1BS		SESW	1	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	9999	2900	8/24/2012			8/30/2012	

Comments: MIRU TRIPLE A BUCKET RIG. SPUD WELL LOCATION ON 8/24/2012 AT 07:00 HRS. WSMVD

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752377	NBU 1022-1N4BS		SESW	1	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	9999	2900	8/24/2012			8/30/2012	

Comments: MIRU TRIPLE A BUCKET RIG. SPUD WELL LOCATION ON 8/24/2012 AT 10:00 HRS. BHL: SESW WSMVD

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752372	NBU 1022-1M4CS		SESW	1	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	9999	2900	8/24/2012			8/30/2012	

Comments: MIRU TRIPLE A BUCKET RIG. SPUD WELL LOCATION ON 8/24/2012 AT 13:00 HRS. BHL: SWSW WSMVD

ACTION CODES:
- **A** - Establish new entity for new well (single well only)
- **B** - Add new well to existing entity (group or unit well)
- **C** - Re-assign well from one existing entity to another existing entity
- **D** - Re-assign well from one existing entity to a new entity
- **E** - Other (Explain in 'comments' section)

JAIME SCHARNOWSKE
Name (Please Print)
Signature
REGULATORY ANALYST
Title
8/29/2012
Date

RECEIVED
AUG 30 2012
Div. of Oil, Gas & Mining

(5/2000)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010953

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-1M4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047523720000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6526

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1228 FSL 2092 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SESW Section: 01 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 11/2/2012	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

No Activity for the month of October 2012. Well TD at 2,527.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
November 02, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Lindsey Frazier	720 929-6857	Regulatory Analyst II
SIGNATURE N/A		**DATE** 11/2/2012

RECEIVED: Nov. 02, 2012

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
UTU-010953

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
NATURAL BUTTES

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
NBU 1022-1M4CS

2. NAME OF OPERATOR:
KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER:
43047523720000

3. ADDRESS OF OPERATOR:
P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER:
720 929-6526

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1228 FSL 2092 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SESW Section: 01 Township: 10.0S Range: 22.0E Meridian: S

COUNTY:
UINTAH

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 11/24/2012	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
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	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

FINISHED DRILLING TO 8,895' ON 11/23/2012. CEMENTED PRODUCTION CASING. RELEASED PIONEER 54 RIG ON 11/24/2012. DETAILS OF CASING AND CEMENT WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
November 27, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Lindsey Frazier	720 929-6857	Regulatory Analyst II
SIGNATURE		**DATE**
N/A		11/26/2012

RECEIVED: Nov. 26, 2012

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54
Submitted By STUART NEILSON Phone Number 435-790-2921
Well Name/Number NBU 1022-1M4CS
Qtr/Qtr SE/SW Section 1 Township 10S Range 22E
Lease Serial Number UTU010953
API Number 43047523720000

Casing – Time casing run starts, not cementing times.

☐ Production Casing
☐ Other

Date/Time _ _ AM ☐ PM ☐

BOPE
☐ Initial BOPE test at surface casing point
☐ Other

Date/Time 1/19/12 10 AM ☐ PM ☐

Rig Move
Location To: _

Date/Time _ _ AM ☐ PM ☐

Remarks 4th WELL ON PAD

RECEIVED
NOV 19 2012
DIV. OF OIL, GAS & MINING

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54
Submitted By STUART NEILSON Phone Number 435-790-2921
Well Name/Number NBU 1022-1M4CS
Qtr/Qtr SE/SW Section 1 Township 10S Range 22E
Lease Serial Number UTU010953
API Number 43047523720000

Casing – Time casing run starts, not cementing times.

☐ Production Casing
☐ Other

Date/Time _ _ AM ☐ PM ☐

BOPE
☐ Initial BOPE test at surface casing point
☐ Other

Date/Time 1/19/12 10 AM ☐ PM ☐

Rig Move
Location To: _

Date/Time _ _ AM ☐ PM ☐

RECEIVED
NOV 19 2012
DIV. OF OIL, GAS & MINING

Remarks 4th WELL ON PAD

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54
Submitted By STUART NEILSON Phone Number 435-790-2921
Well Name/Number NBU 1022-1M4CS
Qtr/Qtr SE/SW Section 1 Township 10S Range 22E
Lease Serial Number UTU010953
API Number 43047523720000

Casing – Time casing run starts, not cementing times.

☒ Production Casing
☐ Other

Date/Time 11/22/2012 18:00 AM ☐ PM ☒

BOPE

☐ Initial BOPE test at surface casing point
☐ Other

Date/Time _____ _____ AM ☐ PM ☐

Rig Move
Location To:

Date/Time _ _ AM ☐ PM ☐

Remarks 4th WELL ON PAD

RECEIVED
NOV 2 3 2012
DIV. OF OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
UTU-010953

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
NATURAL BUTTES

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
NBU 1022-1M4CS

2. NAME OF OPERATOR:
KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER:
43047523720000

3. ADDRESS OF OPERATOR:
P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER:
720 929-6526

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1228 FSL 2092 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SESW Section: 01 Township: 10.0S Range: 22.0E Meridian: S

COUNTY:
UINTAH

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 2/4/2013	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Started completing the well. Well TD at 8,895

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
February 13, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Lindsey Frazier	720 929-6857	Regulatory Analyst II
SIGNATURE		**DATE**
N/A		2/4/2013

RECEIVED: Feb. 04, 2013

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010953

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-1M4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047523720000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6526

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1228 FSL 2092 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SESW Section: 01 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 2/27/2013	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The subject well was placed on production on 02/27/2013. The Chronological Well History will be submitted with the well completion report.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
February 28, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Laura Abrams	720 929-6356	Regulatory Analyst II
SIGNATURE N/A		**DATE** 2/27/2013

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. UTU010953

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. UTU63047A

2. Name of Operator KERR MCGEE OIL & GAS ONSHORE LP — Contact: LINDSEY A FRAZIER — E-Mail: lindsey.frazier@anadarko.com

8. Lease Name and Well No. NBU 1022-1M4CS

3. Address PO BOX 173779 DENVER, CO 80217

3a. Phone No. (include area code) Ph: 720-929-6857

9. API Well No. 43-047-52372

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface SESW 1228FSL 2092FWL 39.974066 N Lat, 109.390210 W Lon

At top prod interval reported below SWSW 110FSL 806FWL

At total depth SWSW 92FSL 799FWL

10. Field and Pool, or Exploratory NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area Sec 1 T10S R22E Mer SLB

12. County or Parish UINTAH

13. State UT

14. Date Spudded 08/24/2012

15. Date T.D. Reached 11/23/2012

16. Date Completed ☐ D & A ☒ Ready to Prod. 02/27/2013

17. Elevations (DF, KB, RT, GL)* 5130 KB

18. Total Depth: MD 8895 TVD 8538

19. Plug Back T.D.: MD 8834 TVD 8477

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CBL/GR/CCL/TEMP

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2497		775		0	
7.875	4.500 I-80	11.6	0	8881		1477		580	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	8320							

25. Producing Intervals / 26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	6707	8722	6707 TO 8722	0.360	186	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
6707 TO 8722	PUMP 9424 BBLS SLICK H2O AND 196,532 LBS 30/50 OTTAWA SAND

RECEIVED
APR 01 2013
DIV. OF OIL, GAS & MINING

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
02/27/2013	02/28/2013	24	→	0.0	2899.0	0.0			FLOWS FROM WELL

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
20/64	1939 SI	2484.0	→	0	2899	0		PGW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #202742 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				GREEN RIVER	1307
				BIRD'S NEST	1626
				MAHOGANY	1946
				WASATCH	4485
				MESAVERDE	6682

32. Additional remarks (include plugging procedure):
The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DQX csg was run from surface to 4957 ft; LTC csg was run from 4957 ft. to 8881 ft. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #202742 Verified by the BLM Well Information System.
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal

Name *(please print)* LINDSEY A FRAZIER Title REGUALTORY ANALYST

Signature (Electronic Submission) Date 03/27/2013

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-1M4CS GREEN			Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/1/2012	3:00 - 7:30	4.50	MIRU	01	C	P		SKID RIG 20' TO NBU 1022-1M4CS, RIG UP SET MATTING BOARD, SET RIG IN PLACE, CATWALK, PIPE RACKS, PLACE BOTTOME HOLE ASSEMBLY
	7:30 - 8:00	0.50	MIRU	01	C	P		PRE SPUD JOB SAFETY MEETING REVEW DIRECTIONAL PLANS AND PLATS AND VERIFY LAT/LONGS AND WELL ORDER VERIFY DIRECTIONAL DRILLERS PLAN IS THE MOST RECENT AND APPROVED VERSION REFERENCE WELLBORE DIAGRAMS FOR EXACT CASING DESIGN AND GENERAL OVERVEW OF WELLBORE, PRIOR TO SPUD.
	8:00 - 9:30	1.50	DRLSUR	02	B	P		FINISH PICKING UP BHA. PICK UP NOV 1.83 DEGREE BENT MOTOR (RUN # 4) - .17 REV/GAL SN (1044684-10). PICK UP 12.25 Q506 DRILL BIT RUN 39 SN (7020485) SPUD @ 10/01/2012 08:00. DRILL 12.25" HOLE 4'-210' (206', 110'/PER HOUR). 12.25 in. BIT ON 40 th RUN. WEIGHT ON BIT 5-15 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF (BOTTOM) 800/600. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 20/20/20 K. DRAG 0 K. CIRCULATE CLOSED LOOP SYSTEM WITH 8.3# WATER. RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS.
	9:30 - 11:30	2.00	DRLSUR	06	A	P		DRILL DOWN TO 210' WITH 6" DRILL COLLARS. PRE JOB SAFETY MEETING, CIRC 15 MINUTES AND, TRIP OUT TO CHANGE ASSEMBLY. LAY DOWN 6" DRILL COLLARS, BREAK 12 1/4" BIT. MAKE UP Q506F 11" BIT (2ND RUN) (SN 7141916) PICK UP 8" DIRECTIONAL ASSEMBLY. INSTALL EM TOOL, TRIP IN HOLE.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-1M4CS GREEN		Spud Date: 10/1/2012	
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:30 - 18:00	6.50	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE 210'-970', (760', 117'/PER HOUR). WEIGHT ON BIT 15-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 950/700. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 60/45/50 K. DRAG 10 K. SLIDING 30' PER 90'OF ROTATION GETTING 2.5 DEGREE BUILD RATES CURRENTLY 3' NORTH 2.0' LEFT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	18:00 - 0:00	6.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE 970'-1630', (660', 110'/PER HOUR). WEIGHT ON BIT 15-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 1140/870. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 75/60/65 K. DRAG 10 K. SLIDING 30' PER 90'OF ROTATION GETTING 2.5 DEGREE BUILD RATES CURRENTLY 5' NORTH 2.8' LEFT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. PUT AIR ON THE HOLE@1800 CFM @1570' NO OTHER HOLE ISSUES.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-1M4CS GREEN		Spud Date: 10/1/2012	
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/2/2012	0:00 - 4:00	4.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE 1630'-1930', (300', 75'/PER HOUR). WEIGHT ON BIT 15-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 1140/870. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 75/60/65 K. DRAG 10 K. SLIDING 30' PER 90'OF ROTATION GETTING 2.5 DEGREE BUILD RATES CURRENTLY 5' NORTH 2.8' LEFT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. PUT AIR ON THE HOLE@1800 CFM @1570' NO OTHER HOLE ISSUES.
	4:00 - 15:30	11.50	DRLSUR	22	M	X		WELL COMMUNICATION BETWEEN WELL #4 & #5, TRIP DRILL STRING OUT OF THE HOLE AND, PUMP TOP OUT CEMENT DOWN WELL #5, WAIT 3 HOURS FOR CEMENT TO SET UP AND, TRIP IN THE HOLE TO FINISH DRILLING (THERE IS NOTHING IN THE COMMENT STANDARDIZATION FOR WELL COMMUNICATION)
	15:30 - 22:00	6.50	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE 1930'-2410', (480', 73'/PER HOUR) WEIGHT ON BIT 18-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 1250/1100. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 85/60/70 K. DRAG 15 K. SLIDING 15' PER 90'OF ROTATION GETTING 1.3 DEGREE BUILD RATES CURRENTLY 2.0' SOUTH 1.4' LEFT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS PUT AIR ON THE HOLE@ 1800 CFM @ 1450' NO OTHER HOLE ISSUES.
	22:00 - 0:00	2.00	DRLSUR	08	A	Z		***FAILURE: RIG EQUIPMENT - (HYDRAULIC HOSE TO MAIN HYDRAULIC PUMP) WAITED ON A NEW HOSE TO COME FROM TOWN THEN REPLACE HYDRAULIC HOSE.

Operation Summary Report

Well: NBU 1022-1M4CS GREEN			Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/3/2012	0:00 - 1:30	1.50	DRLSUR	08	A	Z		***FAILURE: RIG EQUIPMENT - (HYDRAULIC HOSE TO MAIN HYDRAULIC PUMP) WAITED ON A NEW HOSE TO COME FROM TOWN THEN REPLACE HYDRAULIC HOSE.
	1:30 - 3:30	2.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE 2410'-2512, (102', 51'/PER HOUR), TD@10/3/2012 03:30 WEIGHT ON BIT 18-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 1250/1100. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 85/60/70 K. DRAG 15 K. SLIDING 15' PER 90'OF ROTATION GETTING 1.3 DEGREE BUILD RATES CURRENTLY 5' SOUTH 12' LEFT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS PUT AIR ON THE HOLE@ 1800 CFM @ 1450' NO OTHER HOLE ISSUES.
	3:30 - 5:30	2.00	DRLSUR	05	A	P		CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS, 4 400 BBL UPRIGHT'S FULL AND 2 EMPTY, MUD TANKS FULL, HOLE IS STILL LOSING VOLUME.
	5:30 - 9:30	4.00	DRLSUR	06	A	P		TRIP OUT OF HOLE, LAY DOWN BOTTOM HOLE ASSEMBLY, DIRECTIONAL TOOLS, MOTOR AND, BIT. LAY DOWN DIRECTIONAL TOOLS. GRADE BIT CLEAR TOOL AREA.
	9:30 - 10:00	0.50	CSGSUR	06	A	P		PRE JOB SAFETY MEETING, MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. COUNTED ALL CASING ON LOCATION TO ENSURE THE CORRECT NUMBER OF JOINTS ARE IN THE CASING RUN. RIG UP TO RUN SURFACE CASING. CLEAR UNRELATED TOOLS.
	10:00 - 12:30	2.50	CSGSUR	12	C	P		RUN 56 JOINTS OF 8-5/8". 28# J-55 LTC CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY OTHER JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN A TOTAL OF 56 JOINTS. COUNTED ALL PIPE ON LOCATION TO ENSURE THAT ALL JOINTS ON CASING RUN ARE IN THE HOLE. RUN CASING TO BOTTOM WITH NO PROBLEMS. SET FLOAT SHOE @ 2481.98' KB. SET TOP OF BAFFLE PLATE @ 2435.85' KB.

Operation Summary Report

Well: NBU 1022-1M4CS GREEN			Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:30 - 14:00	1.50	CSGSUR	12	E	P		PRE JOB SAFETY MEETING, RAN 200 ft OF 1 lin. PIPE DOWN BACK-SIDE OF CASING. RELEASE RIG @ 10/3/2012 12:30 PRESSURE TEST LINES TO 2000 PSI. PUMP 145 BBLS OF WATER AHEAD. MIX AND PUMP 20 BBLS OF 8.5# GEL WATER AHEAD. MIX AND PUMP (300 sx) 61.4 BBLS OF 15.8.8# 1.15 YIELD. DROP PLUG ON FLY, DISPLACE W/ 151 BBLS OF H2O, NO RETURNS THROUGH OUT JOB, FINAL LIFT OF 250 PSI AT 3 BBL/MINUTE. BUMP THE PLUGG WITH 550 PSI, HELD 550 PSI FOR 5 MINUTES, TESTED FLOAT AND FLOAT HELD. SHUT DOWN AND WASH UP.
	14:00 - 21:30	7.50	CSGSUR	12	E	P		PUMP CEMENT DOWN ONE INCH PIPE WITH 150 sx (30.7 bbls.)SAME CEMENT NO RETURNS TO SURFACE. SHUT DOWN AND WASH UP. WAIT 1.5 HOURS ON CEMENT, CEMENT DOWN BACKSIDE W/ 125 sx (25.6 bbls.) SAME CEMENT NO RETURNS TO SURFACE. WAIT 1.5 HOURS ON CEMENT, CEMENT DOWN BACKSIDE W/ 100 sx (20.4 bbls.) SAME CEMENT NO RETURNS TO SURFACE. WAIT 1.5 HOURS ON CEMENT, CEMENT DOWN BACKSIDE W/ 100 sx (20.4 bbls.) SAME CEMENT 3 BBLS RETURNS TO SURFACE. RIG DOWN CEMENTERS. (CEMENT JOB FINISHED AT 10/03/2012 21:30)
11/19/2012	22:00 - 22:30	0.50	MIRU3	01	C	P		SKID RIG TO THE NBU 1022-1M4CS
	22:30 - 23:00	0.50	PRPSPD	01	B	P		N/U BOPE, R/U, FLOW LINE CHOKE LINES, WATER, BOILER, AIR, ECT
	23:00 - 0:00	1.00	PRPSPD	15	A	P		START TESTING BOPE
11/20/2012	0:00 - 2:30	2.50	PRPSPD	15	A	P		HELD SAFETY MEETING, TEST PIPE & BLIND RAMS, INNER, OUTER BOP VALVES, HCR & CHOKE VALVES, 250 LOW, 5000 HIGH, ANN 2500, SURFACE CASING TO 1500 FOR 30 MIN
	2:30 - 3:00	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING
	3:00 - 4:00	1.00	PRPSPD	06	A	P		P/U BIT, MM , DIR TOOLS & SCRIBE, TIH TO TOP OF CEMENT @ 2382
	4:00 - 4:30	0.50	PRPSPD	09	A	P		CUT & SLIP DRILL LINE
	4:30 - 6:00	1.50	PRPSPD	08	B	P		CHANGE OUT SAVOR SUB
	6:00 - 7:30	1.50	DRLPRC	02	F	P		DRILL CEMENT, F/E & OPEN HOLE TO 2527', SHOE @ 2500', BAFFLE @ 2454'

Operation Summary Report

Well: NBU 1022-1M4CS GREEN			Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 15:30	8.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 2527 TO 3615', 1088' @ 136' PH WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 8.6 PPG 31 VIS TRQ ON/OFF = 6-5K PSI ON /OFF 1800-1400 , DIFF 200-500 PU/SO/RT = 115-100-105 K SLIDE = 75' IN 1.38 HRS = 54.3' PH ROT= 1013' IN 6.62 HRS = 153' PH NOV / 2- DE-WATER 3.56 LEFT & 7.25 RIGHT OF PLAN 0 DRILL FLARE, 0 CONN FLARE
	15:30 - 16:00	0.50	DRLPRV	07	A	P		SERVICE RIG
	16:00 - 0:00	8.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 3615' TO 4910', 1295' @ 161.8' PH WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 8.6 PPG 31 VIS TRQ ON/OFF = 9000-6000K PSI ON /OFF 2100-1700 , DIFF 200-500 PU/SO/RT = 135-110-120 K SLIDE = 166' IN 2.39 HRS = 69.4' PH ROT= 1129' IN 5.61 HRS = 201.2' PH NOV / 2- DE-WATER 37' N & 4' W OF TARGET CENTER 0 DRILL FLARE, 0 CONN FLARE
11/21/2012	0:00 - 8:00	8.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 4910' TO 6200', 1290' @ 161.3' PH WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 9.2 PPG 35 VIS TRQ ON/OFF = 10,000-8000 K PSI ON /OFF 2350-1900 , DIFF 200-500 PU/SO/RT = 155-105-130 K SLIDE =25 ROT= 1270 NOV / 2- CONVENTIONAL 17' N & 7' W OF TARGET CENTER 0 DRILL FLARE, 0 CONN FLARE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-1M4CS GREEN		Spud Date: 10/1/2012	
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 12:30	4.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 6200' TO 6555=355' AVG 79 WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 9.2 PPG 35 VIS TRQ ON/OFF =10-8 K PSI ON /OFF 2400/1950 , DIFF 200-500 PU/SO/RT 155/105/130 = K SLIDE =0 ROT= 100 NOV / 2- DE-WATER 15 N 6 W OF TARGET CENTER 0 DRILL FLARE, 0 CONN FLARE
	12:30 - 13:00	0.50	DRLPRV	08	B	S		CHANGE PUMP SWAB
	13:00 - 15:00	2.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/6555 TO 6744=189' AVG 9 WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 9.2 PPG 35 VIS TRQ ON/OFF =10-8 K PSI ON /OFF 2400/1950 , DIFF 200-500 PU/SO/RT 155/105/130 = K SLIDE =0 ROT= 100 NOV / 2- DE-WATER 15 N 6 W OF TARGET CENTER 0 DRILL FLARE, 0 CONN FLARE
	15:00 - 15:30	0.50	DRLPRV	07	A	P		RIG SERVICE
	15:30 - 0:00	8.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/6744 TO 7555 =811AVG 95 WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 9.2 PPG 35 VIS TRQ ON/OFF =10-8 K PSI ON /OFF 2400/2000 , DIFF 200-500 PU/SO/RT 155/105/130 = K SLIDE =0 ROT= 786 NOV / 2- DE-WATER 8 N 7' W OF TARGET CENTER 2 DRILL FLARE, 5 CONN FLARE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-1M4CS GREEN			Spud Date: 10/1/2012
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Event: DRILLING	Start Date: 9/11/2012		End Date: 11/24/2012
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/22/2012	0:00 - 8:00	8.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/7555 TO 8164= 609 AVG 76 WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 9.4 PPG 38 VIS TRQ ON/OFF =13/11 K PSI ON /OFF 2500/2150 , DIFF 200-500 PU/SO/RT 190/165/130 K SLIDE =0 ROT= 609' NOV / 2- DE-WATER 8 N 7' W OF TARGET CENTER 4 DRILL FLARE, 6 CONN FLARE
	8:00 - 8:30	0.50	DRLPRV	07	A	P		RIG SERVICE
	8:30 - 14:30	6.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/8164 TO 8387=223 AVG 37 WOB / 18-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 200 GPM 586 MW 9.4 PPG 38 VIS TRQ ON/OFF =13/11 K PSI ON /OFF 2500/2150 , DIFF 200-500 PU/SO/RT 190/165/130 K SLIDE =0 ROT= 223 NOV / 2-CONVENTIONAL 5 N 9 W OF TARGET CENTER 3 DRILL FLARE, 6 CONN FLARE
	14:30 - 17:00	2.50	DRLPRV	22	C	X		60 BBL GAIN,SHUT WELL IN,MONITOR WELL PRESSURE,BUILT TO 1200 PSI ANNULAR PRESSURE,275 SIDPP WHEN FLOAT OPENED TO CIRCULATE 12# MUD THRU CHOKE TO KILL WELL AT 80 STKS PER MIN,TOTAL 7900 STROKES, TRANSFERING 9.4 MUD TO STORAGE 40-60' FLARE, 505' FROM TD
	17:00 - 0:00	7.00	DRLPRV	02	B			CLOSED LOOP SYSTEM DRILL F/8387 TO 8575= AVG WOB / 20-24 RPM TOP DRIVE 55-60 (1 PUMPS) - SPM 122 GPM 360 PUMP POD WASHED OUT #1 PUMP SUCTION MW 12.0 PPG 38 VIS TRQ ON/OFF =13/11 K PSI ON /OFF 1500/1250 , DIFF 200-300 PU/SO/RT 190/165/130 K SLIDE =0 ROT= 100% NOV / 2-CONVENTIONAL 3 N 2 W OF TARGET CENTER 0 DRILL FLARE, 0 CONN FLARE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-1M4CS GREEN		Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD	Rig Name No: PROPETRO 12/12, PIONEER 54/54
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/23/2012	0:00 - 6:30	6.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/8575 TO TD 8895=320AVG 49 WOB / 20-24 RPM TOP DRIVE 55-60 (2 PUMPS) - SPM 170 GPM 510 MW 11.5PPG 42 VIS TRQ ON/OFF =13/11 K PSI ON /OFF 1500/1250 , DIFF 200-300 PU/SO/RT 190/165/130 K SLIDE =0 ROT= 100% NOV / 2-BYPASSED 11' SOUTH 10'WEST OF TARGET CENTER 8 DRILL FLARE, 10 CONN FLARE
	6:30 - 11:00	4.50	DRLPRV	05	B	P		FINAL SURVEY@TD,FLOW CHECK,CIRCULATE AND RAISE MUD WEIGHT 11.5 TO 12.1 FOR WIPER TRIP TO SHOE
	11:00 - 17:00	6.00	DRLPRV	06	E	P		WIPER TRIP TO SHOE
	17:00 - 17:30	0.50	DRLPRV	03	E	S		WASH AND REAM F/8355 TO 8895
	17:30 - 19:00	1.50	DRLPRV	05	C	P		CIRCULATE BORROMS UP,5-10' FLARE FOR 10 MINUTES
	19:00 - 23:30	4.50	DRLPRV	06	A	P		PUMP OUT 5 STANDS,TRIP OUT,STAND BACK DIRECTIONAL TOOLS,PULL WEARRING,2-DRILL PIPE WITH HOLES IN SLIP AREA
	23:30 - 0:00	0.50	CSGPRO	12	C	P		HELD SAFETY MEETING WITH RIG & KIMZEY CASING, R/U & RUN 203 JTS 4.5", I-80 #11.6 PPF PROD CASING = 1 X/O, I MESAVERDE MARKER,MANDREL & LANDING JT, SHOE @ 8880, FLOAT COLLAR@ 8835'
11/24/2012	0:00 - 7:30	7.50	CSGPRO	12	C	P		HELD SAFETY MEETING WITH RIG & KIMZEY CASING, R/U & RUN 203 JTS 4.5", I-80 #11.6 PPF PROD CASING = 1 X/O, I MESAVERDE MARKER,MANDREL & LANDING JT, SHOE @ 8880, FLOAT COLLAR@ 8835'
	7:30 - 8:00	0.50	CSGPRO	12	C	P		LAND MANDREL HANGER
	8:00 - 9:00	1.00	CSGPRO	05	D	P		CIRCULATE BOTTOMS UP FOR CEMENT,10' FLARE 10 MINUTES
	9:00 - 12:00	3.00	CSGPRO	12	E	P		HELD SAFETY MEETING, PSI TEST LINES TO 5000,PUMP 25 BBL WATER SPACER, LEAD 530 SACKS 13 PPG 1.77 YLD PLII+6%Gel+.6%R-3+.4%SM+.25#/SK CF+5#/SK Kol-Seal+.4%FL-52,5#blsf TAIL 930 SACKS 14.3 PPG 1.32 YLD,50/50poz+2%gell+0.55% R-3+10%salt+5#blsf+.75%SMS DISPLACE WITH 137 CLAYFIX WATER, FULL RETURNS T, 1.5 BBLS BACK TO TRUCK, FINAL LIFT PSI 2600, BUMP PLUG @ 3000, HELD FOR 5 MIN, FLOATS HELD, EST TOP OF TAIL 3950, FLOAT COLLAR 8835',SHOE @ 8880', WASH STACK, R/D
	12:00 - 12:30	0.50	RDMO	12	C	P		SET MANDREL HANGER
	12:30 - 13:00	0.50	RDMO	14	A	P		NIPPLE DOWN,SAVE MUD,PREP FOR SKID,RIG RELEASE@ 13:00 11/24/2012

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-1M4CS GREEN	**Wellbore No.**	OH
Well Name	NBU 1022-1M4CS	**Wellbore Name**	NBU 1022-1M4CS
Report No.	1	**Report Date**	2/11/2013
Project	UTAH-UINTAH	**Site**	NBU 1022-1N PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	12/27/2012	**End Date**	2/27/2013
Spud Date	10/1/2012	**Active Datum**	RKB @5,130.00usft (above Mean Sea Level)
UWI	SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0		

1.3 General

Contractor		**Job Method**		**Supervisor**	
Perforated Assembly		**Conveyed Method**			

1.4 Initial Conditions

Fluid Type		**Fluid Density**	
Surface Press		**Estimate Res Press**	
TVD Fluid Top		**Fluid Head**	
Hydrostatic Press		**Press Difference**	
Balance Cond	NEUTRAL		

1.5 Summary

Gross Interval	6,707.0 (usft)-8,722.0 (usft	**Start Date/Time**	2/11/2013 12:00AM
No. of Intervals	56	**End Date/Time**	2/11/2013 12:00AM
Total Shots	186	**Net Perforation Interval**	56.00 (usft)
Avg Shot Density	3.32 (shot/ft)	**Final Surface Pressure**	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/11/2013 12:00AM	MESAVERDE/			6,707.0	6,708.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/11/2013 12:00AM	MESAVERDE/			6,730.0	6,731.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			6,758.0	6,759.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			6,764.0	6,765.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			6,899.0	6,900.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			6,960.0	6,961.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,016.0	7,017.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,030.0	7,031.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,054.0	7,055.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,084.0	7,085.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,102.0	7,103.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,223.0	7,224.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,257.0	7,258.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,276.0	7,277.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,367.0	7,368.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,372.0	7,373.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,393.0	7,394.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,439.0	7,440.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,456.0	7,457.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,668.0	7,669.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,702.0	7,703.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,718.0	7,719.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/11/2013 12:00AM	MESAVERDE/			7,734.0	7,735.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,750.0	7,751.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,763.0	7,764.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,771.0	7,772.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,802.0	7,803.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,850.0	7,851.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,861.0	7,862.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,921.0	7,922.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,936.0	7,937.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,947.0	7,948.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,968.0	7,969.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			7,986.0	7,987.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,070.0	8,071.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,092.0	8,093.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,117.0	8,118.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,178.0	8,179.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,204.0	8,205.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,249.0	8,250.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,269.0	8,270.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,281.0	8,282.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,334.0	8,335.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/11/2013 12:00AM	MESAVERDE/			8,351.0	8,352.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,362.0	8,363.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,372.0	8,373.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,394.0	8,395.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,403.0	8,404.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,483.0	8,484.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,493.0	8,494.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,523.0	8,524.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,566.0	8,567.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,583.0	8,584.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,684.0	8,685.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,697.0	8,698.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
2/11/2013 12:00AM	MESAVERDE/			8,721.0	8,722.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

3 Plots

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-1M4CS GREEN		Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD	Rig Name No: MILES 3/3
Event: COMPLETION	Start Date: 12/27/2012	End Date: 2/27/2013
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/27/2012	-							
12/28/2012	-							
2/6/2013	10:45 - 11:30	0.75	SUBSPR	33	C	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 63 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. PRESSURE TEST 8 5/8 X 4 1/2 TO 603 PSI HELD FOR 5 MIN LOST -120 PSI,BLED PSI OFF, REINSTALLED POP OFF SWIFN
2/7/2013	7:00 - 13:00	6.00	SUBSPR	37		P		PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWIFW
2/11/2013	6:45 - 7:00	0.25	FRAC	48		P		HSM. HIGH PSI LINES & WL AWAIRNESS.
	7:00 - 18:00	11.00	FRAC	36	B	P		PSI TEST FRAC LINES T/ 8000 PSI. LOST 800 PSI. GOOD TEST. BLEED OFF PSI. FRAC STG 1)WHP 1691 PSI, BRK 4554 PSI @ 4.7 BPM. ISIP 2487 PSI, FG. 0.73 ISIP 2475 PSI, FG. 0.73, NPI -12 PSI. SWI, XO T/ WL. PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8434', P/U PERF AS PER DESIGN. POOH, XO T/ FRAC. FRAC STG 2)WHP 2104 PSI, BRK 2833 PSI @ 4.7 BPM. ISIP 2125 PSI, FG. 0.69 ISIP 2586 PSI, FG. 0.75, NPI 461 PSI. SWI, XO T/ WL. PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8312' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC. FRAC STG 3)WHP 1130 PSI, BRK 3829 PSI @ 4.7 BPM. ISIP 2218 PSI, FG. 0.71 ISIP 2395 PSI, FG. 0.73, NPI 177 PSI. SWI, XO T/ WL. PERF STG 4)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8017' P/U PERF AS PER DESIGN. SWIFN.

Operation Summary Report

Well: NBU 1022-1M4CS GREEN		Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD	Rig Name No: MILES 3/3
Event: COMPLETION	Start Date: 12/27/2012	End Date: 2/27/2013
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/12/2013	9:30 - 18:00	8.50	FRAC	36	B	P		FRAC STG 4)WHP 1292 PSI, BRK 4145 PSI @ 4.7 BPM. ISIP 2055 PSI, FG. 0.7 ISIP 2003 PSI, FG. 0.69, NPI -52 PSI. SWI, XO T/ WL. PERF STG 5)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7833' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC. FRAC STG 5)WHP 1592 PSI, BRK 2504 PSI @ 4.7 BPM. ISIP 1648 PSI, FG. 0.65 ISIP 2145 PSI, FG. 0.72, NPI 497 PSI. SWI, XO T/ WL. PERF STG 6)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7692' P/U PERF AS PER DESIGN. POOH. SWIFN.
2/13/2013	10:30 - 18:00	7.50	FRAC	36	B	P		FRAC STG 6)WHP 1481 PSI, BRK 2259 PSI @ 4.7 BPM. ISIP 1827 PSI, FG. 0.68 ISIP 2579 PSI, FG. 0.78, NPI 752 PSI. SWI, XO T/ WL. PERF STG 7)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7307' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC. FRAC STG 7)WHP 1061 PSI, BRK 2227 PSI @ 4.7 BPM. ISIP 1487 PSI, FG. 0.65 ISIP 2280 PSI, FG. 0.76, NPI 793 PSI. SWI, XO T/ WL. PERF STG 8)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 6991' P/U PERF AS PER DESIGN. POOH, SWIFN.
2/14/2013	9:30 - 12:00	2.50	FRAC	36	B	P		FRAC STG 8)WHP 262 PSI, BRK 1446 PSI @ 4.7 BPM. ISIP 1027 PSI, FG. 0.59 ISIP 1831 PSI, FG. 0.71, NPI 804 PSI. SWI, XO T/ WL. PU 4 1/2 8K HAL CBP. RIH SET KILL PLUG @ 6657'. POOH. DONE FRACING THIS WELL. TOTAL SAND = 196,532 LBS TOTAL CLFL = 9422 BBLS
2/26/2013	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, PICKING UP TBG
	7:30 - 11:30	4.00	DRLOUT	31	I	P		TALLY & PU 37/8 BIT, POBS, 1.875 X/N & 210 JTS 23/8 L-80 TAG UP @ 6661' RU DRLG EQUIP.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-1M4CS GREEN		Spud Date: 10/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-1N PAD	Rig Name No: MILES 3/3
Event: COMPLETION	Start Date: 12/27/2012	End Date: 2/27/2013
Active Datum: RKB @5,130.00usft (above Mean Sea Level)	UWI: SE/SW/0/10/S/22/E/1/0/0/26/PM/S/1228/W/0/2092/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:30 - 17:00	5.50	DRLOUT	44	C	P		BROKE CIRC CONV, TEST BOPS TO 3,000# RIH. C/O 10' SAND TAG 1ST PLG @ 6665' DRL PLG IN 4 MINS, 0 PSI INCREASE RIH C/O 25' SAND TAG 2ND PLG @ 6991' DRL PLG IN 8 MINS, 1200 PSI INCREASE RIH C/O 30' SAND TAG 3RD PLG @ 7312' DRL PLG IN 4 MINS, 500 PSI INCREASE RIH. C/O 27' SAND TAG 4TH PLG @ 7695' DRL PLG IN 5 MINS, 600 PSI INCREASE RIH. C/O 35' SAND TAG 5TH PLG @ 7833' DRL PLG IN 6 MINS, 700 PSI INCREASE RIH. C/O 30' SAND TAG 6TH PLG @ 8017' DRL PLG IN 4 MINS, 800 PSI INCREASE RIH. C/O 30' SAND TAG 7TH PLG @ 8312' DRL PLG IN 5 MINS, 500 PSI INCREASE RIH C/O 15' SAND TAG 8TH PLG @ 8434' DRL PLG IN 5 MINS, 5000 PSI INCREASE RIH, TO 8446' CIRC CLN SWI, DRAIN EQUIP SDFN
2/27/2013	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, WORKING AROUND PRESSURE.
	7:30 - 9:30	2.00	DRLOUT	44	D	P		SICP 3300 PSI, OPEN CSG TO PIT, BROKE CIRC CONV, C/O TO 8819' CIRC CLN, RD SWIVEL, L/D 16 JTS 23/8 L-80, LAND TBG, ND BOPS NU WH, TEST FLOW LINE TO 3,000 PSI, PUMP OFF BIT @ 1700 PSI. TURN WELL OVER TO FB CREW, RIG DOWN. KB = 19' 41/16 CAMERON HNGR = .83' (SURFACE OPEN & LOCK) 262 JTS 23/8 L-80 = 8297.87' SICP 2300. FTP 100. 1.875 X/N & POBS = 2.20' EOT @ 8319.90' TWTR = 9684 BBLS TWR = 1200 BBLS TWLTR = 8484 BBLS 283 JTS 23/8 L-80 DELIVERED 262 LANDED 21 TO RETURN
	9:30 - 9:30	0.00	DRLOUT	50				WELL TURNED TO SALES @ 2130 HR ON 2/27/2013. 3900 MCFD, 1560 BWPD, FCP 2480#, FTP 2650#, 20/64" CK.

Scientific Drilling

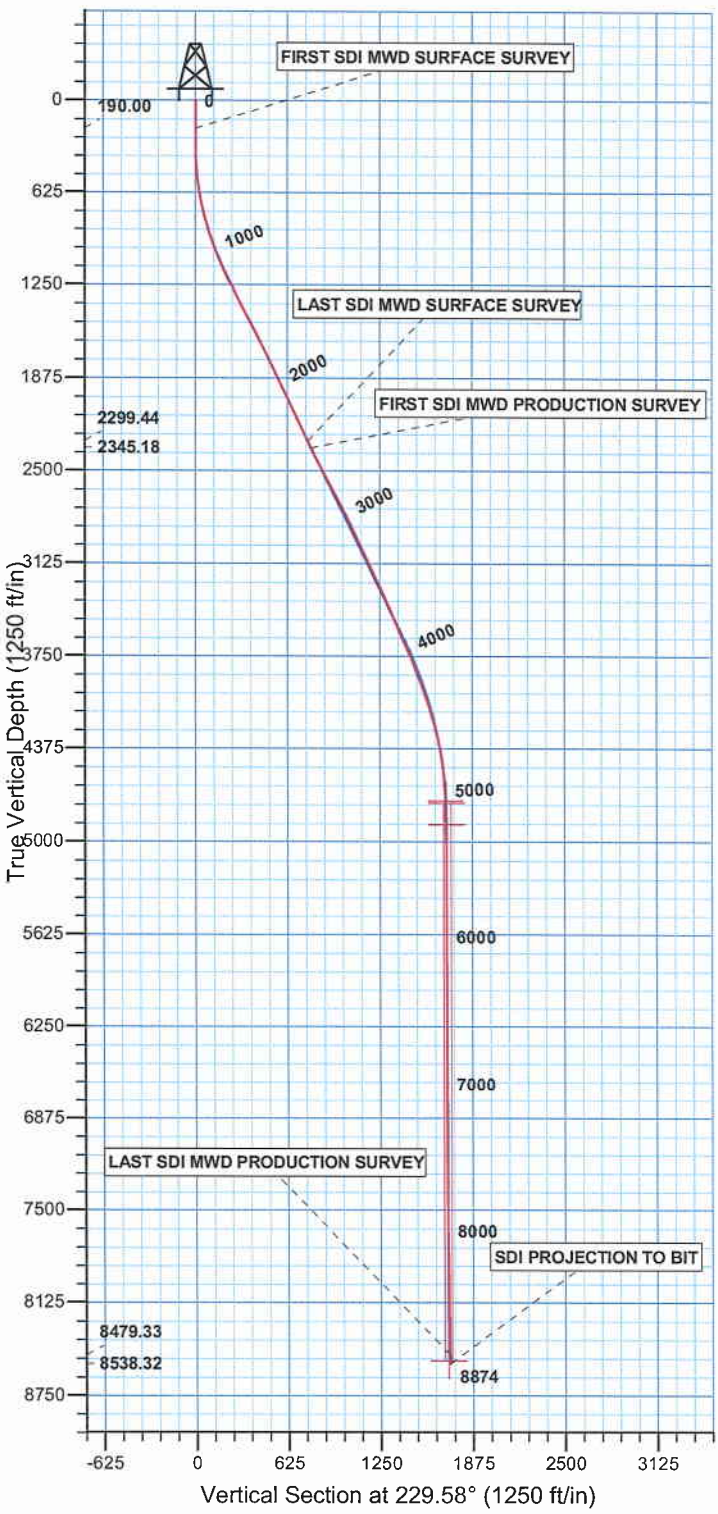
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-1N PAD
Well: NBU 1022-1M4CS
Wellbore: OH
Design: OH

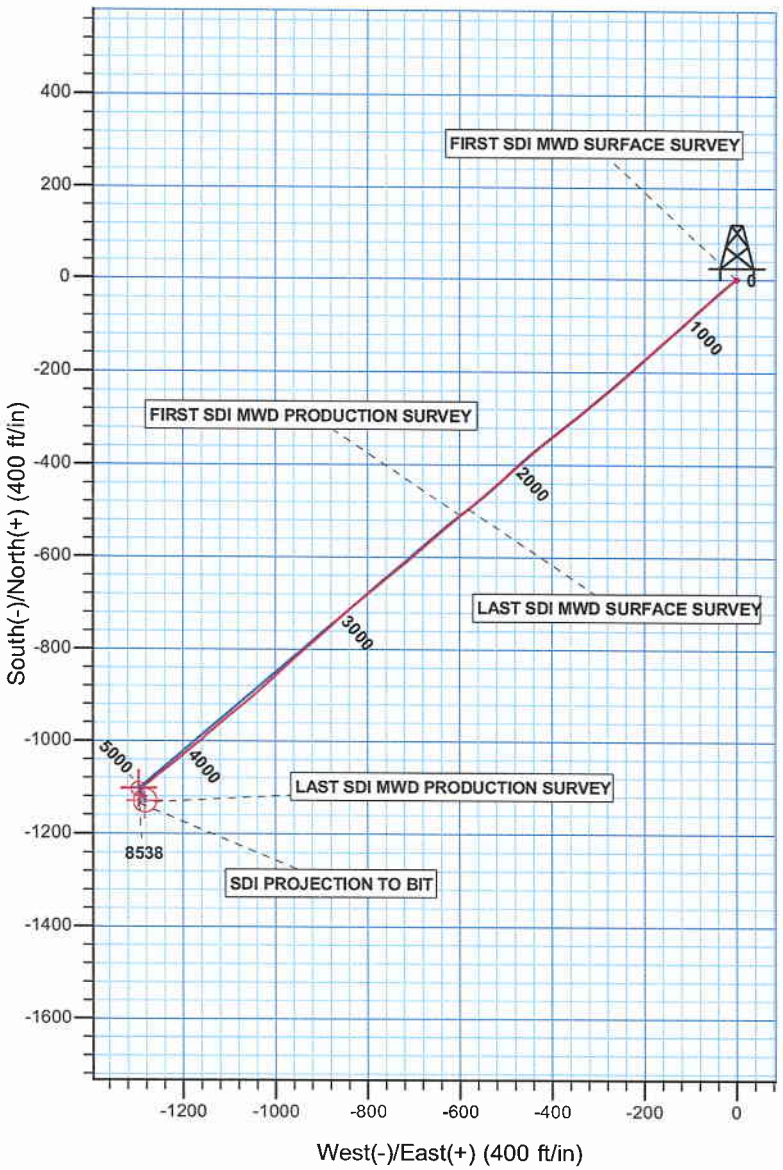
Anadarko Petroleum Corporation

WELL DETAILS: NBU 1022-1M4CS					
GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14520687.80	2091623.30	39.974100	-109.389529

Azimuths to True North
Magnetic North: 11.00°

Magnetic Field
Strength: 52310.3snT
Dip Angle: 65.86°
Date: 08/23/2011
Model: IGRF2010





PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 1 T10S R22W
System Datum:	Mean Sea Level

Design: OH (NBU 1022-1M4CS/OH)

Created By: Gabe Kendall Date: 11:53, December 18 2012

Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-1N PAD
NBU 1022-1M4CS

OH

Design: OH

Standard Survey Report

18 December, 2012

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Site:	NBU 1022-1N PAD	**MD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Well:	NBU 1022-1M4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site NBU 1022-1N PAD, SECTION 1 T10S R22W

Site Position:		**Northing:**	14,520,707.86 usft	**Latitude:**	39.974155
From:	Lat/Long	**Easting:**	2,091,624.33 usft	**Longitude:**	-109.389524
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.03 °

Well NBU 1022-1M4CS, 1228 FSL 2092 FWL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,520,687.81 usft	**Latitude:**	39.974100
	+E/-W	0.00 ft	**Easting:**	2,091,623.29 usft	**Longitude:**	-109.389529
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,111.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/23/11	11.00	65.86	52,310

Design OH

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	229.58

Survey Program **Date** 12/18/12

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
15.00	2,462.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1
2,513.00	8,895.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
190.00	0.35	7.79	190.00	0.53	0.07	-0.40	0.20	0.20	0.00
FIRST SDI MWD SURFACE SURVEY									
275.00	0.53	283.68	275.00	0.88	-0.27	-0.36	0.71	0.21	-98.95
357.00	1.93	230.29	356.98	0.09	-1.71	1.24	2.04	1.71	-65.11
447.00	4.31	226.72	446.84	-3.20	-5.33	6.14	2.65	2.64	-3.97
537.00	6.60	233.75	536.43	-8.58	-11.97	14.67	2.65	2.54	7.81
627.00	9.76	231.38	625.50	-16.40	-22.10	27.46	3.53	3.51	-2.63
717.00	12.49	230.24	713.80	-27.39	-35.55	44.82	3.04	3.03	-1.27

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Site:	NBU 1022-1N PAD	**MD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Well:	NBU 1022-1M4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
807.00	14.95	229.18	801.22	-41.20	-51.81	66.16	2.75	2.73	-1.18
897.00	17.50	228.57	887.63	-57.75	-70.75	91.30	2.84	2.83	-0.68
987.00	20.14	226.81	972.81	-77.31	-92.19	120.32	3.00	2.93	-1.96
1,077.00	22.88	227.91	1,056.54	-99.65	-116.48	153.29	3.08	3.04	1.22
1,167.00	25.06	228.74	1,138.77	-123.95	-143.80	189.84	2.45	2.42	0.92
1,257.00	26.12	228.48	1,219.94	-149.65	-172.96	228.71	1.18	1.18	-0.29
1,347.00	27.52	228.13	1,300.26	-176.66	-203.28	269.30	1.57	1.56	-0.39
1,437.00	27.70	229.10	1,380.01	-204.24	-234.57	311.00	0.54	0.20	1.08
1,527.00	27.35	230.44	1,459.82	-231.10	-266.32	352.59	0.79	-0.39	1.49
1,617.00	27.44	230.59	1,539.73	-257.43	-298.28	394.00	0.13	0.10	0.17
1,707.00	28.31	229.53	1,619.29	-284.45	-330.54	436.08	1.11	0.97	-1.18
1,797.00	25.99	230.97	1,699.37	-310.72	-362.10	477.14	2.68	-2.58	1.60
1,887.00	24.97	231.47	1,780.61	-334.97	-392.28	515.84	1.16	-1.13	0.56
1,977.00	25.82	232.21	1,861.92	-358.82	-422.63	554.40	1.01	0.94	0.82
2,067.00	25.61	229.26	1,943.01	-383.52	-452.85	593.43	1.44	-0.23	-3.28
2,157.00	26.29	227.34	2,023.93	-409.72	-482.25	632.80	1.20	0.76	-2.13
2,247.00	25.50	227.51	2,104.90	-436.32	-511.19	672.08	0.88	-0.88	0.19
2,337.00	24.53	230.24	2,186.45	-461.35	-539.84	710.12	1.68	-1.08	3.03
2,462.00	26.12	231.47	2,299.44	-495.09	-581.32	763.57	1.34	1.27	0.98
LAST SDI MWD SURFACE SURVEY									
2,513.00	26.38	231.00	2,345.18	-509.21	-598.91	786.12	0.65	0.51	-0.92
FIRST SDI MWD PRODUCTION SURVEY									
2,608.00	27.61	229.25	2,429.83	-536.87	-631.99	829.24	1.54	1.29	-1.84
2,703.00	28.10	228.29	2,513.82	-566.12	-665.37	873.62	0.70	0.52	-1.01
2,798.00	28.02	230.10	2,597.66	-595.32	-699.19	918.30	0.90	-0.08	1.91
2,892.00	27.61	229.33	2,680.80	-623.68	-732.65	962.16	0.58	-0.44	-0.82
2,987.00	26.62	231.34	2,765.36	-651.33	-765.97	1,005.45	1.42	-1.04	2.12
3,082.00	25.87	230.69	2,850.56	-677.75	-798.62	1,047.45	0.85	-0.79	-0.68
3,177.00	25.24	228.63	2,936.27	-704.27	-829.86	1,088.42	1.15	-0.66	-2.17
3,272.00	24.97	228.63	3,022.29	-730.91	-860.11	1,128.72	0.28	-0.28	0.00
3,367.00	26.12	228.45	3,108.01	-758.03	-890.81	1,169.68	1.21	1.21	-0.19
3,461.00	25.85	227.58	3,192.50	-785.58	-921.42	1,210.85	0.50	-0.29	-0.93
3,556.00	25.17	227.74	3,278.24	-813.14	-951.66	1,251.74	0.72	-0.72	0.17
3,651.00	24.32	227.37	3,364.52	-839.97	-981.01	1,291.48	0.91	-0.89	-0.39
3,746.00	23.39	227.31	3,451.40	-866.01	-1,009.26	1,329.87	0.98	-0.98	-0.06
3,841.00	22.77	227.75	3,538.80	-891.15	-1,036.73	1,367.09	0.68	-0.65	0.46
3,936.00	23.18	230.75	3,626.26	-915.35	-1,064.82	1,404.15	1.31	0.43	3.16
4,031.00	24.09	229.86	3,713.29	-939.67	-1,094.12	1,442.24	1.03	0.96	-0.94
4,126.00	22.95	229.16	3,800.40	-964.29	-1,122.95	1,480.15	1.24	-1.20	-0.74
4,220.00	21.72	228.81	3,887.35	-987.73	-1,149.91	1,515.87	1.32	-1.31	-0.37
4,315.00	19.61	230.56	3,976.23	-1,009.43	-1,175.45	1,549.39	2.31	-2.22	1.84
4,410.00	17.50	230.74	4,066.29	-1,028.60	-1,198.82	1,579.61	2.22	-2.22	0.19
4,505.00	16.27	229.95	4,157.19	-1,046.20	-1,220.07	1,607.20	1.32	-1.29	-0.83

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Site:	NBU 1022-1N PAD	**MD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Well:	NBU 1022-1M4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.00	14.07	231.53	4,248.87	-1,061.95	-1,239.30	1,632.05	2.36	-2.32	1.66
4,695.00	11.87	232.85	4,341.45	-1,075.04	-1,256.13	1,653.35	2.34	-2.32	1.39
4,790.00	8.35	230.74	4,434.96	-1,085.31	-1,269.26	1,670.00	3.73	-3.71	-2.22
4,885.00	6.24	230.21	4,529.18	-1,092.98	-1,278.57	1,682.07	2.22	-2.22	-0.56
4,979.00	3.34	215.71	4,622.85	-1,098.47	-1,284.10	1,689.83	3.32	-3.09	-15.43
5,075.00	1.49	204.28	4,718.76	-1,101.88	-1,286.24	1,693.68	1.98	-1.93	-11.91
5,169.00	1.49	211.05	4,812.73	-1,104.04	-1,287.38	1,695.94	0.19	0.00	7.20
5,264.00	1.41	200.59	4,907.70	-1,106.19	-1,288.43	1,698.13	0.29	-0.08	-11.01
5,359.00	1.41	188.87	5,002.67	-1,108.44	-1,289.02	1,700.04	0.30	0.00	-12.34
5,453.00	0.44	317.31	5,096.66	-1,109.32	-1,289.44	1,700.93	1.83	-1.03	136.64
5,548.00	0.40	307.02	5,191.66	-1,108.85	-1,289.95	1,701.02	0.09	-0.04	-10.83
5,643.00	0.07	268.43	5,286.66	-1,108.66	-1,290.27	1,701.14	0.37	-0.35	-40.62
5,738.00	0.26	205.25	5,381.65	-1,108.85	-1,290.42	1,701.38	0.25	0.20	-66.51
5,833.00	0.31	181.21	5,476.65	-1,109.30	-1,290.52	1,701.75	0.14	0.05	-25.31
5,928.00	0.60	170.88	5,571.65	-1,110.05	-1,290.45	1,702.18	0.32	0.31	-10.87
6,023.00	0.57	162.42	5,666.65	-1,110.99	-1,290.23	1,702.62	0.10	-0.03	-8.91
6,118.00	0.72	171.04	5,761.64	-1,112.03	-1,289.99	1,703.11	0.19	0.16	9.07
6,212.00	0.97	162.10	5,855.63	-1,113.37	-1,289.65	1,703.73	0.30	0.27	-9.51
6,307.00	1.06	152.43	5,950.61	-1,114.92	-1,289.00	1,704.23	0.20	0.09	-10.18
6,401.00	0.44	107.08	6,044.61	-1,115.80	-1,288.25	1,704.23	0.87	-0.66	-48.24
6,496.00	0.53	123.86	6,139.60	-1,116.15	-1,287.54	1,703.91	0.18	0.09	17.66
6,591.00	0.79	128.26	6,234.60	-1,116.80	-1,286.66	1,703.67	0.28	0.27	4.63
6,685.00	0.79	129.93	6,328.59	-1,117.61	-1,285.66	1,703.43	0.02	0.00	1.78
6,780.00	0.88	116.57	6,423.58	-1,118.36	-1,284.50	1,703.04	0.23	0.09	-14.06
6,875.00	1.14	128.00	6,518.56	-1,119.27	-1,283.10	1,702.56	0.34	0.27	12.03
6,970.00	1.21	127.21	6,613.54	-1,120.46	-1,281.56	1,702.16	0.08	0.07	-0.83
7,065.00	0.53	68.58	6,708.53	-1,120.90	-1,280.35	1,701.53	1.09	-0.72	-61.72
7,160.00	0.44	279.08	6,803.53	-1,120.69	-1,280.30	1,701.35	0.99	-0.09	-157.37
7,254.00	0.09	305.80	6,897.53	-1,120.59	-1,280.72	1,701.60	0.38	-0.37	28.43
7,349.00	0.11	312.36	6,992.53	-1,120.48	-1,280.85	1,701.63	0.02	0.02	6.91
7,444.00	1.14	280.22	7,087.52	-1,120.25	-1,281.84	1,702.24	1.10	1.08	-33.83
7,538.00	0.94	272.06	7,181.51	-1,120.06	-1,283.54	1,703.40	0.26	-0.21	-8.68
7,633.00	0.93	270.00	7,276.50	-1,120.03	-1,285.09	1,704.56	0.04	-0.01	-2.17
7,728.00	0.62	258.60	7,371.49	-1,120.13	-1,286.36	1,705.60	0.36	-0.33	-12.00
7,822.00	0.89	262.48	7,465.48	-1,120.33	-1,287.58	1,706.66	0.29	0.29	4.13
7,916.00	0.88	246.03	7,559.47	-1,120.72	-1,288.97	1,707.96	0.27	-0.01	-17.50
8,011.00	0.62	238.56	7,654.46	-1,121.28	-1,290.07	1,709.17	0.29	-0.27	-7.86
8,106.00	0.70	199.98	7,749.45	-1,122.09	-1,290.71	1,710.18	0.47	0.08	-40.61
8,202.00	0.70	196.64	7,845.45	-1,123.21	-1,291.08	1,711.18	0.04	0.00	-3.48
8,296.00	0.97	204.90	7,939.44	-1,124.48	-1,291.58	1,712.39	0.31	0.29	8.79
8,392.00	1.06	204.28	8,035.42	-1,126.03	-1,292.28	1,713.93	0.09	0.09	-0.65
8,487.00	1.23	199.20	8,130.40	-1,127.79	-1,292.98	1,715.60	0.21	0.18	-5.35
8,582.00	1.23	191.45	8,225.38	-1,129.75	-1,293.52	1,717.28	0.17	0.00	-8.16
8,677.00	1.14	180.64	8,320.36	-1,131.70	-1,293.73	1,718.71	0.25	-0.09	-11.38

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-1M4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Site:	NBU 1022-1N PAD	**MD Reference:**	GL 5111 & KB 19 @ 5130.00ft (PIONEER 54)
Well:	NBU 1022-1M4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,771.00	0.88	166.05	8,414.35	-1,133.33	-1,293.57	1,719.64	0.39	-0.28	-15.52
8,836.00	1.23	163.06	8,479.33	-1,134.48	-1,293.24	1,720.14	0.54	0.54	-4.60
LAST SDI MWD PRODUCTION SURVEY									
8,895.00	1.23	163.06	8,538.32	-1,135.69	-1,292.87	1,720.65	0.00	0.00	0.00
SDI PROJECTION TO BIT									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
190.00	190.00	0.53	0.07	FIRST SDI MWD SURFACE SURVEY
2,462.00	2,299.44	-495.09	-581.32	LAST SDI MWD SURFACE SURVEY
2,513.00	2,345.18	-509.21	-598.91	FIRST SDI MWD PRODUCTION SURVEY
8,836.00	8,479.33	-1,134.48	-1,293.24	LAST SDI MWD PRODUCTION SURVEY
8,895.00	8,538.32	-1,135.69	-1,292.87	SDI PROJECTION TO BIT

Checked By: _____ Approved By: _____ Date: _____